



File No.: PLDVP20240155 &  
PLDP20240156 (Hornby  
Island Co-op)

DATE OF MEETING: November 1, 2024

TO: Hornby Island Local Trust Committee

FROM: Ian Cox, Planner 2  
Northern Team

SUBJECT: RE: DVP and Commercial DP concurrent applications

Applicant: Hornby Island Co-operative Association Inc. No. 710 - Scott Tory, AFC  
Construction (agent)

Location: 5875 Central Road, Hornby Island (PID 026-371-791)  
Lot 1, Sections 6 and 10, Hornby Island, Nanaimo District, Plan VIP79310

## RECOMMENDATIONS

1. That the Hornby Island Local Trust Committee approve issuance of development variance permit PLDVP20240155.
2. That the Hornby Island Local Trust Committee approve issuance of development permit PLDP20240156.

## REPORT SUMMARY

The purpose of this report is to provide information to the LTC for consideration of two permits that are required to facilitate the redevelopment of the Hornby Co-op property at 5875 Central Road. The project includes construction of a new Co-op Store building with a grocery and hardware store, Canada Post, liquor store, deli, office rooms, and loading areas. A development variance permit (DVP) for relaxation of property line setbacks, and a development permit (DP) for development within the Commercial Centres (Retail and Visitor Accommodation) Development Permit Area (DPA) are required per the proposed plans. A siting and use permit (SUP) will also be required following issuance of the DVP and DP which would be delegated to staff.

This report asks the LTC to consider only the DP and DVP. Staff consider the application materials to meet the Commercial Centres DPA Guidelines (**Attachment 1**) and recommends issuing both permits under the analysis and rationale provided in the following sections.

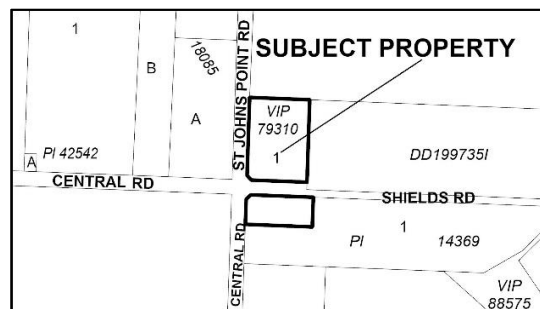


Figure 1 - Subject Property

## BACKGROUND

### *Site Context*

The subject property is located at the intersection of Central Road and Shields Road and is a “hooked” lot across those roadways. The Co-op Store and Ringside Market areas are located on the southern portion of the property, with services extending to the northern portion where the gas/service station and parking lot is located. Complete site and context information are found in **Attachments 2 & 3**.

### *Project Overview*

The application materials describe that the 12 existing Ringside Market buildings will remain with no change of use or occupancy. The existing general store is to be demolished and replaced with a new general store per the drawings and plans by Leckie Studio Architecture and Design Inc. (**Attachment 4**). The new general store will include mercantile space on level 1 and office space on level 2. Construction will also include a generator, fire pump enclosure, and above grade water tanks on the South-West corner of the site.

The project is proposed be carried out in two phases. Phase one includes the construction of the new Hornby Island Co-op store while maintaining operations at the existing building. On completion of the new store, the existing building would be demolished. Phase 2 includes plans to construct the front landscape area and entrance canopy after demolition of the old building is complete.

## ANALYSIS

### *OCP*

The subject property is designated Retail and Personal Service and included in the Commercial Centres (Retail and Visitor Accommodations) DPA per the [Hornby Island Official Community Plan Bylaw No. 149](#) (OCP) land use and development permit areas maps, Schedule “B” and “E” to the OCP, respectively . Staff consider the current uses on the property and proposed development applications to be compatible with OCP policies and objectives under section 6.5.1 for this designation. The DPA Guidelines are found in the LUB section 9.1.

### *LUB*

#### Zoning

The subject property is zoned Commercial 1 -Retail (C1) (Co-op and Service Station) under LUB section 8.9, where retail, restaurants, service stations, personal services, and offices are permitted principal uses.

The applicant is requesting two variances to the Hornby Island Land Use Bylaw (LUB) in order to allow the new Co-op Store to be sited closer to the lot lines than permitted by the LUB. The application states that the variances would facilitate the construction of the new building while allowing the existing store to remain in operation during the project, avoiding any disruption to the essential island service. This requires the new building to be located within 1.2 metres of the property’s rear lot line, and zero (0) metres from the property’s eastern interior side lot line; both abut Provincial Crown Land that is the BC Parks campground property. The proposed location provides the minimum space between the two buildings required for the construction, according to the applicant.

## Setbacks - DVP

The applicant is requesting a relaxation to the following LUB setback regulations (**Attachment 5**):

- Section 8.9, Subsection (4)(b) which states that the minimum setback for any building or structure, except for a fence or pump/utility house, shall be **6.0 metres from a rear lot line, is requested to be reduced to 1.2 metres** from the Southern rear lot line.
- Section 8.9, Subsection 4(c) which states that the minimum setback for any building or structure, except for a fence or pump/utility house, shall be **3.0 metres from an interior side lot line, is requested to be reduced to 0.0 metres** from the Eastern interior lot line.

## Intent of setback regulations

Lot line setbacks are intended to ensure that buildings and structures are sited a sufficient distance from road frontages, neighbouring properties and their land uses, such that a use or structure on one does not significantly impact the other. Setbacks help to minimize visual impact and ensure that structures and uses on adjacent properties are a minimum distance apart, allowing for a reasonable degree of privacy and to mitigate disturbance issues which might impinge upon an owner, resident, or user's enjoyment.

## Impact of granting variances

As previously stated, the applicant submits that the siting of the new store building is necessary to enable the continued operation of the existing store during construction. The proximity of the new store building to the campground is of concern to BC Parks, according to the communication received from the applicant between themselves and a Parks representative. Staff understand the applicant met with the BC Parks Area Supervisor, in September of this year to walk the property and discuss the following points:

- Options for pedestrian/camper access between the Co-op property and campground;
- How to best connect the BC Parks Trail to the Co-op parking lot and single-lane access;
- The replacement of the old fence along the southern property line;
- The benefits of closing Shields Road.
- Exterior lighting on the new store building;
- Mechanical/HVAC noise impact to campers;
- Height of the new store building including roof style;
- Drainage;
- General aesthetics facing campground including windows/privacy;

The applicant has responded to these concerns and is in dialog with BC Parks to improve the interface between the properties, by implementing changes such as alternate parking and surface treatments, relocating mechanical equipment, etc., while working within certain constraints and what the applicant describes as limited design options.

The specific implications of denying the variances may be best articulated by the applicant. However, staff understand that if they are denied, this could have significant impact on the project timeline and could cause service interruptions to the store, as two examples.

## Development Permit

The entire property is within the Commercial Centres (Retail and Visitor Accommodations) Development Permit Area as shown on the map Schedule “E” to the Hornby Official Community Plan and in Figure 2 below, requiring a permit for the proposed works. The DPA Guidelines are included in section 9.1 of the [LUB](#) and an analysis of how the application meets the Guidelines is presented in **Attachment 1**. Staff consider the application to meet the Guidelines and to ensure this, conditions of the permit are included in the draft DP (**Attachment 6**).



**Figure 2 - Commercial Centres DPA Extent**

A small portion of the subject property along Central Road is also designated as DPA 6 – Riparian Areas. However the proposed development is exempt from requiring a Development Permit for DPA 6, under regulation 9.6.2(s) of the Hornby Island Land Use Bylaw (LUB):

### **9.6.2**

*s) Any development more than 8.0 metres from a stream that is a roadside ditch which does not contain instream habitat for fish according to the Stream identification Reports prepared for [Hornby Island by Madrone Environmental Services \(January 2014\)](#) and [Mimulus Biological Consultants \(March 2012\)](#)*

## **Other Issues and Opportunities**

### Landscaping

DP Guideline 8 stipulates that a landscape plan incorporating natural landscaping should be required. Staff consider that because this is an existing site with minimal landscaping and previously disturbed and developed areas, a separate landscape plan from the details shown on the site and building plans may not be required. The site plan shows areas addressing accessibility, vegetation retention and planting, bicycle parking, seating, etc. and the draft DP permit proposes conditions requiring these elements. If the site was to be newly and comprehensively redeveloped – including the existing Ringside Market area - a detailed landscape plan would be effective. In this case only one new building is proposed to be added at this time and the applicant has provided a site plan incorporating design elements specified in the DP Guidelines.

### Servicing & Water

See attached Civil Site Servicing Design Brief by Herold Engineering, and Septic Evaluation and Upgrades by Ron McMurtrie and Associates in **Attachment 7 & 8**.



While it is likely that water use will increase on the subject property upon completion of the proposed development considering the addition of a second storey to the Co-op building, staff do not consider the proposed variances to have an impact on water use directly, since the proposed building and changes to the lot are permitted in the LUB whether the variances are granted or not. Under the *Water Sustainability Act (WSA)*, the use of groundwater for non-domestic/commercial purposes requires a water license from the Province of BC. It is the responsibility of the property owner to comply with any provincial Act and regulations.

### Environmental Management Plan

Although the proposed development is exempt from obtaining a permit for the Riparian Areas DPA on the portion of the property along Central Road (as mentioned in the above sections), the applicant has engaged Current Environmental to create a Construction Environmental Management Plan (**Attachment 9**) that includes measures for invasive plant management, avian (bird) management, water quality monitoring, hazardous materials and fuel management, etc. and a requirement for an onsite Environmental Monitor to ensure the measures are followed throughout the project. The Monitor has the authority to order the Contractor to modify and/or halt any work activity if deemed necessary for the protection of the environment and observance of statutory requirements. Adherence to the Management Plan is proposed as a condition of the draft DP.

### **CIRCULATION**

Notification of the DVP was sent to property owners and residents within the vicinity on October 18, 2024 in accordance with the *Local Government Act (Attachment 10)*. Public comments can be received up to and including the LTC meeting on November 1, 2024.

As of the date of this report, no correspondence had been received in response to the notification. Any submissions received prior to the LTC meeting date will be forwarded to the LTC and reported at the meeting for information and consideration.

### **First Nations**

Islands Trust reviews all applications to ensure the preservation and protection of cultural heritage, archaeological sites, and ancestral places. As reviewed, the application is consistent with respect to LTC Standing Resolutions on reconciliation. Notwithstanding, to provide applicants with awareness regarding unknown archaeological areas, staff forwarded the Islands Trust Chance Find Protocol and the provincial Archaeological Branch guidelines on Heritage Act directly to the applicants with the initial application.

### **Rationale for Recommendation**

**PLDVP20240155:** Staff recommend approval of the variance (DVP) request as found on page 1 of this report, considering the following:

- the proposed variances would not contradict Hornby OCP policies;
- the use and structure(s) are supported by the LUB C1 zoning regulations;
- the applicant is actively working to address concerns from the neighbouring property owner, BC Parks, as well as conducting the development under professional engineering assessment and design.

**PLDP20240156:** Staff consider the application to meet the DPA Guidelines as presented in **Attachment 1** and therefore recommend issuance of the DP. Staff further recommend that the DP be issued only following the DVP, since the one is dependent on the other. If for some reason the LTC chooses not to issue the requested

variances, the applicant would still need to meet the DP Guidelines on submission of a new or alternate development plan which did not include the variances.

Staff recommendations are listed on page 1 of this report.

## ALTERNATIVES

### 1. Request further information

The LTC may request further information prior to making a decision. If selecting this alternative, the LTC should describe the specific information needed and the rationale for this request. Recommended wording for the resolution is as follows:

*That the Hornby Island Local Trust Committee request that the applicant submit to the Islands Trust [describe information] prior to further consideration of [PLDVP20240155 and/or PLDP20240156].*

### 2. Deny the application(s)

The LTC may deny the application(s). If this alternative is selected, the LTC should state the reasons for denial, particularly in the case of the DP. The LTC should list the specific reasons it does not find that the application meets the DPA Guidelines. Recommended wording for the resolution is as follows:

*That the Hornby Island Local Trust Committee deny application [PLDVP20240155 and/or PLDP20240156] for the following reasons [insert reasons].*

## NEXT STEPS

If the LTC grants the DP and DVP, staff will review and process the additionally required Siting and Use Permit (SUP) for the development per the [Hornby Siting and Use Permit Bylaw No. 168](#).

Submitted By:	Ian Cox, Planner 2	October 22, 2024
Concurrence:	Renée Jamurat, RPP MCIP, Regional Planning Manager	October 28, 2024

## ATTACHMENTS

1. DPA Guidelines (Commercial Centres)
2. Site Context
3. Existing Site Plan Survey
4. Plans and Drawings by Leckie Studio Architecture
5. Draft DVP
6. Draft DP
7. Civil Site Servicing Design Brief (Harold Engineering)
8. Septic Evaluation and Upgrades
9. Construction Environmental Management Plan
10. Statutory Public Notice of DVP

## ATTACHMENT 1 – DPA GUIDELINES, COMMERCIAL CENTRES (RETAIL AND VISITOR ACCOMMODATIONS)

Prior to undertaking any development, subdivision or land alteration, an owner of property within the Commercial Centres (Retail and Visitor Accommodations) Development Permit area shall apply to the Hornby Island Local Trust Committee for a development permit. Development Permits issued in this area should be in accordance with the following guidelines:

	<b>Guideline</b>	<b>Notes</b>
1	The character of each development (including campgrounds) should be in keeping with the rural environment and blend in with the aesthetic qualities of the natural surroundings.	Co-op store building design is aligned with other standard co-op architectural styles, which includes metal and composite non-combustible cladding materials. Public use areas and amenities are included in the site plan design for the front of the store building including bicycle parking, seating, new plantings and retention of existing natural vegetation where possible.  Condition d) of the draft DP requires retention of vegetation and screening of parking areas where possible.
2	The form of the development should incorporate low, small-scale building designs with such amenities as public walkways and outdoor open spaces for use by the public, and include sufficient services.	The new store building is 2 storeys in order to reduce the building footprint and incorporate multi uses. Walkways, seating, bicycle parking, etc. are included in the site plan design.
3	Natural vegetation and trees should be maintained for screening of parking and storage areas and to enhance the privacy and rural flavour of public open spaces.	Storage and loading areas will be located to the rear, side and parking on the north portion of the lot, not in the public areas in front of the new store building.  Condition d) of the draft DP requires retention of vegetation and screening of parking areas where possible.
4	In order to minimize light pollution to neighbouring properties, lighting should be softer and lower than supplied by mercury vapour lighting towers, and alternatives that do not light up adjacent private properties shall be required.	Condition b) of the draft DP
5	Off-street automobile parking should be provided as required by bylaw and the Permit should ensure that it is adequately screened and unobtrusive and, if possible, is located to the rear of the parcel and away from public open spaces and eating places.	Condition c) and d) of the draft DP.  Parking will be located on north portion of lot adjacent to the existing gas bar and service station, not in front of the Co-op store building.  The existing parking area on the North Property will be re-configured to increase parking capacity of the

		entire site. The North Property will consist of 105 standard vehicle stalls and two EV parking stalls. Landscaping buffers are planned between the rows of parking.
6	Adequate convenient toilet and washroom facilities should be provided for the number of customers anticipated.	Included in the new store building. Condition e) of the draft DP.
7	Clustering of businesses in order to share in the provision of parking, services, and public facilities and open space should be encouraged.	The new store building is 2 storeys in order to reduce the building footprint and incorporate multi uses. Walkways, seating, bicycle parking, etc. are include din the site plan design.
8	A landscape plan incorporating natural landscaping should be required.	Landscape plan included in site plan for new store on southern portion of the lot including garden and plantings. The LTC could request a detailed plan and/or plantings list.
9	Neon or internally lit signs should not be permitted.	Condition b) of the draft DP
10	All buildings should be finished in natural products such as wood or brick.	Co-op store building design is aligned with other standard co-op architectural styles, which includes metal and composite wood/cement board non-combustible cladding materials.
11	On any lot where residential use is permitted, the sequence of construction should be that buildings to be used only for commercial purposes should be constructed prior to any construction of any building that may accommodate residential use, with the exception that one building to be used for commercial purposes that includes one dwelling unit may be constructed, if authorized by zoning regulation, in any sequence of construction on the lot.	N/A –not a permitted use in the C1 zone.
12	Universal access design principles should be incorporated into the built environment to support the provision of equitable access for all abilities.	Improvements to the public pathways connecting the two portions of the property include frontage upgrades along Shields Road, with formalized perpendicular parking stalls along the north side of Shields Road and additional parallel parking stalls along the south side of the road for seniors and limited mobility uses. This will require MOTI approvals. Condition f) of the draft DP.

## ATTACHMENT 2 – SITE CONTEXT

### LOCATION

Legal Description	LOT 1 SECTIONS 6 AND 10 HORNBY ISLAND NANAIMO DISTRICT PLAN VIP79310
PID	026-371-791
Civic Address	5875 Central Road

### LAND USE

Current Land Use	Commercial (Co-op gas station and retail sales)
Surrounding Land Use	Park (Tribune Bay) to NE, Campground to SE, Agriculture to SW, Residential to W and SW

### HISTORICAL ACTIVITY

File No.	Status
HO-ALR-2002.2	Closed
HO-CL-2020.7	Closed
HO-DP-1997.3	Closed
HO-DP-2004.2	Closed
HO-DP-2006.1	Closed
HO-DP-2017.1	Closed
HO-DVP-2017.2	Closed
HO-RZ-2003.6	Closed
HO-SUB-2003.2	Closed
HO-SUP-2004.23	Closed
HO-SUP-2006.15	Closed
HO-SUP-2018.5	Closed
HO-TUP-2020.3	Open
UN-DVP-1990.16	Closed
UN-DVP-1990.2	Closed
UN-DVP-1991.5	Closed

### POLICY/REGULATORY

Official Community Plan Designations	Designation: Retail and Personal Service DPA: Commercial Centres (Retail and Visitor Accommodations)
Land Use Bylaw	Commercial 1 – Retail (C1) Zone (Co-op and Service Station)
Other Regulations	C1 setback for interior side lot lines = 3.0 metres, maximum height for accessory structures = 6.0 metres
Covenants	Restrictive Covenant/Easement: EC26582, EC26583 (Tribune Bay access) Undersurface Rights: 220624G

Bylaw Enforcement	HO-BE-2014.2 – siting (Closed)
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#### SITE INFLUENCES

Islands Trust Conservancy	No ITC interests adjacent to subject parcel.
Regional Conservation Strategy	Regional Conservation Strategy (2018) identifies the parcel as having Medium and High conservation values and priority. The new store building is to be installed in an existing developed/disturbed parking lot area.
Species at Risk	None mapped
Sensitive Ecosystems	Developed/Young Forest: IT SEM mapping
Hazard Areas	None mapped
Archaeological Sites	By copy of this report and as provided at the time the DP application was opened, the owners and applicant should be aware that there is a chance that the lot may contain previously unrecorded archaeological material that is protected under the <i>Heritage Conservation Act</i> . If such material is encountered during development, all work should cease and Archaeology Branch should be contacted immediately as a <i>Heritage Conservation Act</i> permit may be needed before further development is undertaken. This may involve the need to hire a qualified archaeologist to monitor the work.
Climate Change Adaptation and Mitigation	New store to be constructed under current BC Building Code for commercial structures, no increased GHG emissions anticipated as directly related to the new structure apart from increase during construction phase. Building is well set back from natural boundary and storm water/drainage to be included in landscaping/parking plan.
Shoreline Classification	Not Applicable
Shoreline Data in TAPIS	N/A

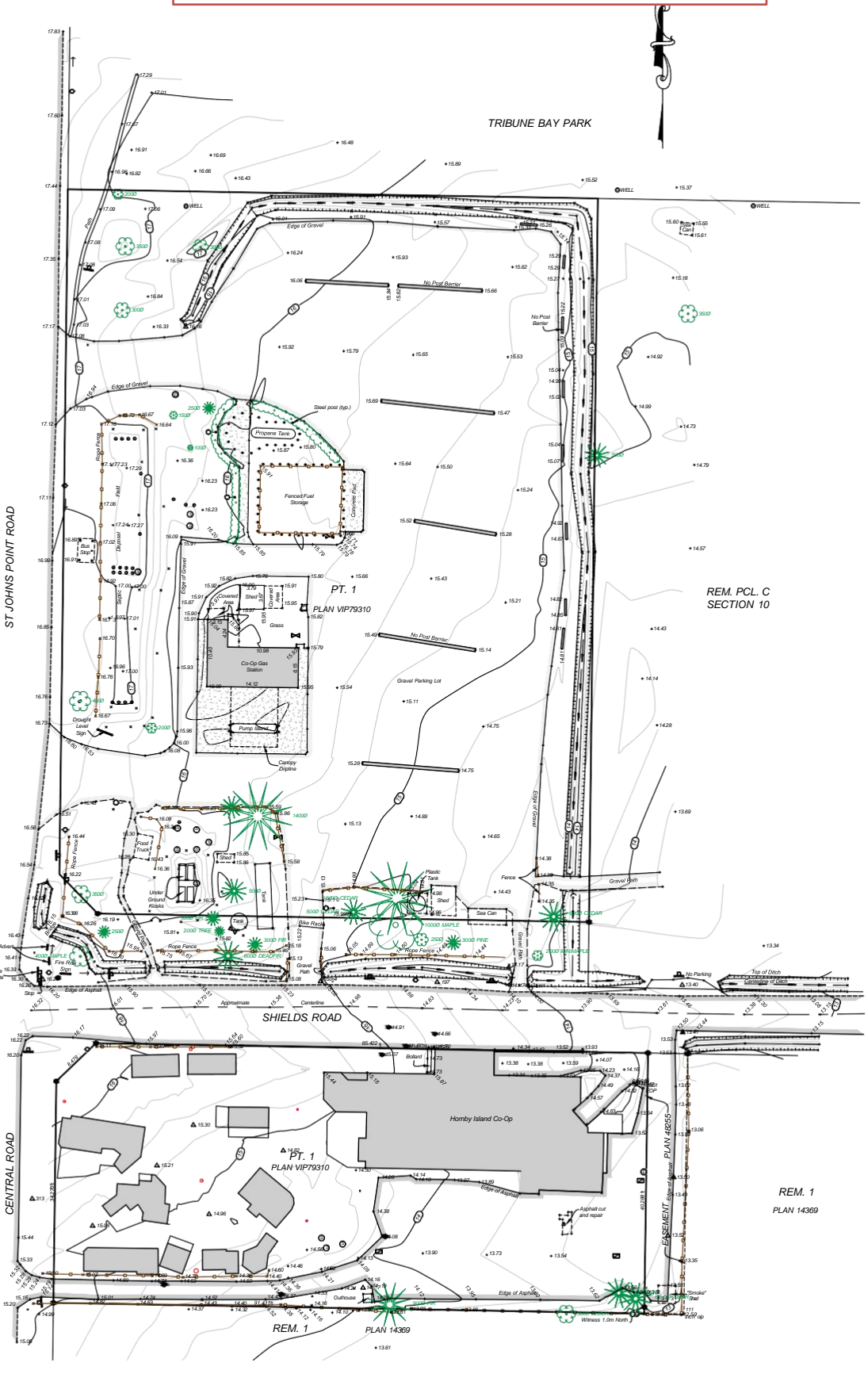
# ATTACHMENT 3 – Existing Site Plan Survey

1:300

- LEGEND**
- Standard Iron Post Found
  - + Spot Elevations
  - ⊠ Sign
  - Lamp Post
  - Catch basin
  - Sanitary manhole
  - Storm drain manhole
  - Sanitary clean out
  - Utility Pole
  - Anchor
  - Fire Hydrant
  - Fence
  - △ Traverse Hub
  - ⊠ Monitor well
  - Tree Coniferous
  - Tree Deciduous
  - ⊠ Water Valve
  - Top of Ditch
  - Centerline of Ditch

Elevations are geoidic and are based on Canadian Vertical Datum 2013 (CGVD2013) (1997).  
Contour Interval = 0.25m  
To convert geoidic elevations to assumed local add 83.42m to elevations shown.

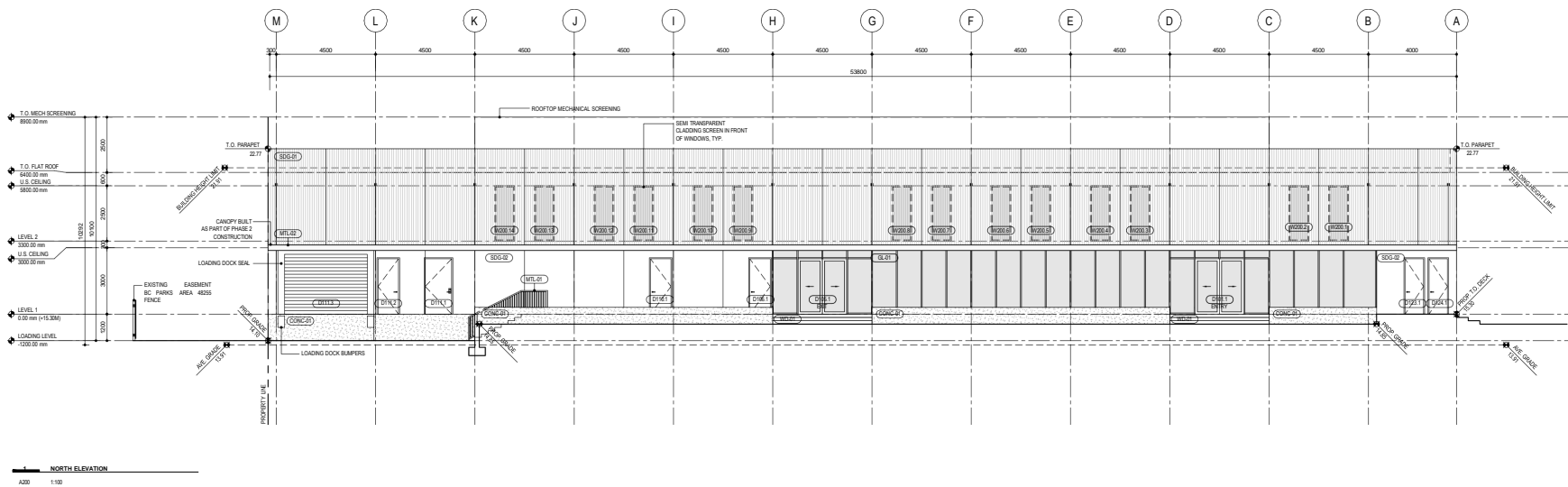
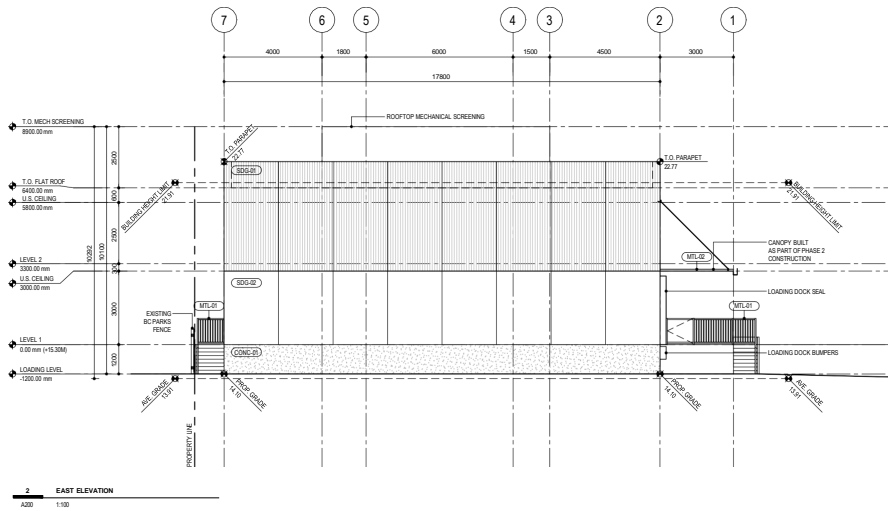
Date of Survey:  
July 11, 2024



Certified correct  
Digitally signed by  
Donald Alexander  
1 Grant - BCLS -  
ABCLS  
Date: 2024.07.19  
07:36:46 -07 0 0  
9' C.L.S.

# ATTACHMENT 4 – Building and Elevation Plans

MATERIAL LEGEND	
FINISH NO.	FINISH TYPE
CONC-01	CONCRETE FOUNDATION
SSG-01	NON-COMBUSTIBLE CLADDING 01
SSG-02	NON-COMBUSTIBLE CLADDING 02
MTL-01	METAL GUARD
MTL-02	ROOF CANOPY
WD-01	WOOD DECKING
GL-01	STOREFRONT GLAZING



**Lecle Studio Architecture + Design Inc.**  
200-207 W 7th Avenue  
Vancouver, BC V6Y 1R2  
604.681.4144  
contact@leclstudio.com



1 ISSUED FOR DEVELOPMENT PERMIT 240726  
Issue

All drawings and related documents are the property of Lecle Studio Architecture + Design Inc. and may not be reproduced in whole or in part without the architect's permission. This drawing should not be used to calculate areas. Do not scale this drawing. All dimensions to be confirmed on site by the general contractor and such dimensions to be their responsibility. All work must comply with the relevant Building Code By Law and related documents. Drawing errors and omissions must be immediately reported to the architect.

**Project**  
**Hornby Island Co-op**  
5875 Central Road  
Hornby Island, BC

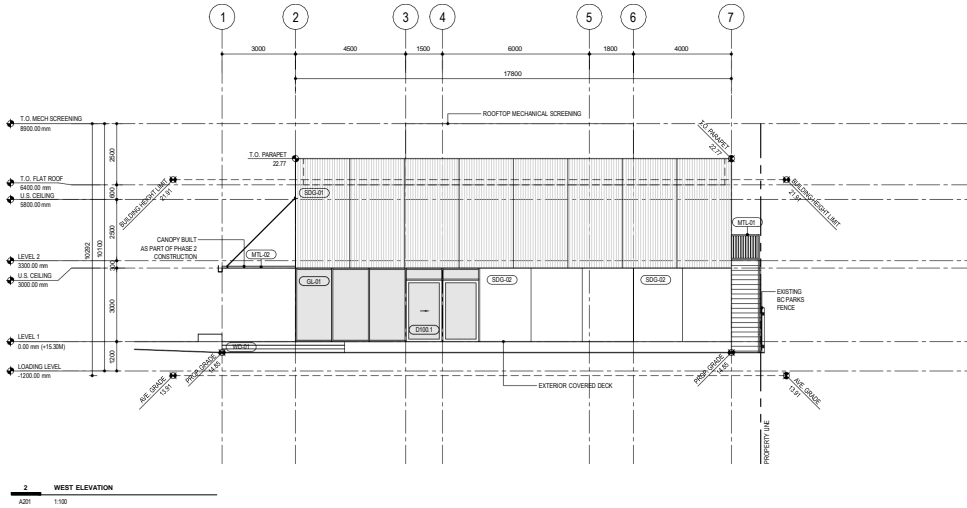
**Drawing Title**  
**North + East Elevation**

Drawn / Checked	Project Code
LSAD	HIC
Scale	Date
1:100 @ 22 x 34	240726
1:200 @ 11 x 17	Sheet Number
	Revision

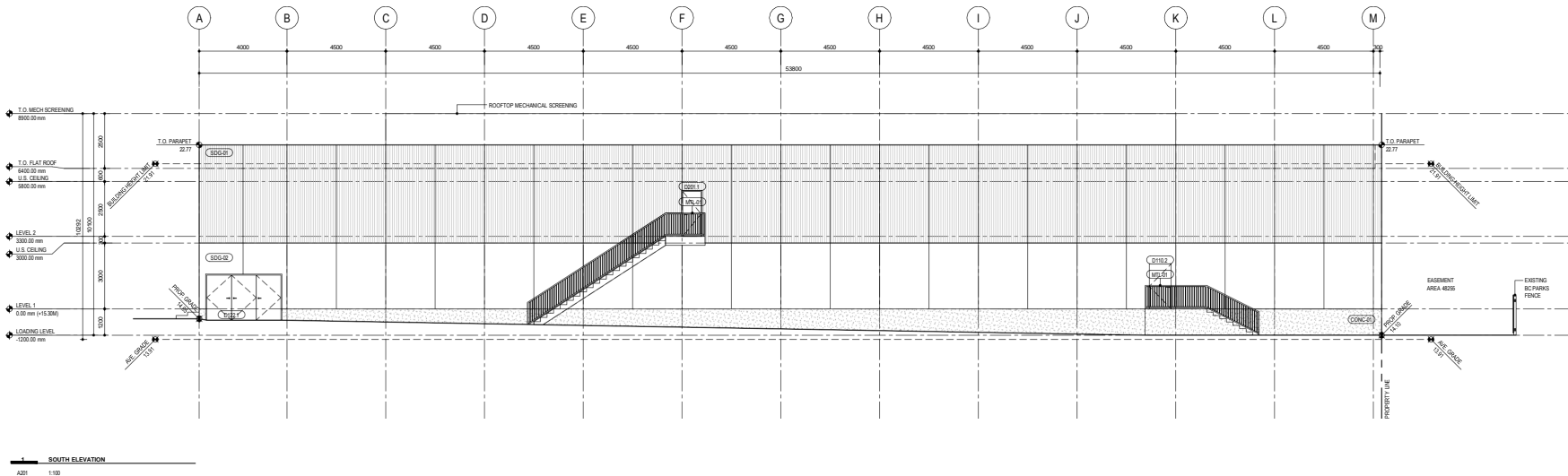
**A200**



MATERIAL LEGEND	
FINISH NO.	FINISH TYPE
CONC-01	CONCRETE FOUNDATION
SSG-01	NON-COMBUSTIBLE CLADDING 01
SSG-02	NON-COMBUSTIBLE CLADDING 02
MTL-01	METAL GUARD
MTL-02	ROOF CANOPY
WD-01	WOOD DECKING
GL-01	STOREFRONT GLAZING



2 WEST ELEVATION  
A201 1:100



1 SOUTH ELEVATION  
A201 1:100



1 ISSUED FOR DEVELOPMENT PERMIT 240726  
Issue

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Project  
**Hornby Island Co-op**  
5575 Central Road  
Hornby Island, BC

Drawing Title  
**South + West Elevation**

Drawn / Checked	Project Code
LSAD	HIC
Scale	Date
1:100 @ 22 x 34	240726
Sheet Number	Revision

**A201**



Islands Trust

# ATTACHMENT 5 - DRAFT DVP

## HORNBY ISLAND LOCAL TRUST COMMITTEE DEVELOPMENT VARIANCE PERMIT PLDVP20240155

To: HORNBY ISLAND CO-OPERATIVE ASSOCIATION, INC.NO.710

1. This Development Variance Permit applies to the land described below:

LOT 1 SECTIONS 6 AND 10 HORNBY ISLAND NANAIMO DISTRICT PLAN VIP79310  
(PID: 026-371-791)

2. Hornby Island Land Use Bylaw No. 150, 2014 is varied as follows:

- a) **Section 8.9, Subsection (4)(b) which states that the minimum setback for any building or structure, except for a fence or pump/utility house shall be 6.0 metres from a rear lot line, is varied to permit the construction of a new grocery store building within 1.2 metres of the Southern rear lot line.**
- b) **Section 8.9, Subsection 4(c) which states that the minimum setback for any building or structure, except for a fence or pump/utility house shall be 3.0 metres from an interior side lot line, is varied to permit the construction of a new grocery store building within 0.0 metres of the Eastern interior lot line.**

The development shall be consistent with Schedule 'A' which is attached to and forms part of this permit.

3. This permit is not a building permit and does not remove any obligation on the part of the permittee to comply with all other requirements of "Hornby Island Land Use Bylaw No. 150, 2014" and to obtain other approvals necessary for completion of the proposed development.

**AUTHORIZING RESOLUTION PASSED BY THE HORNBY ISLAND LOCAL TRUST COMMITTEE THIS ##th DAY OF \_\_\_\_\_, 202X.**

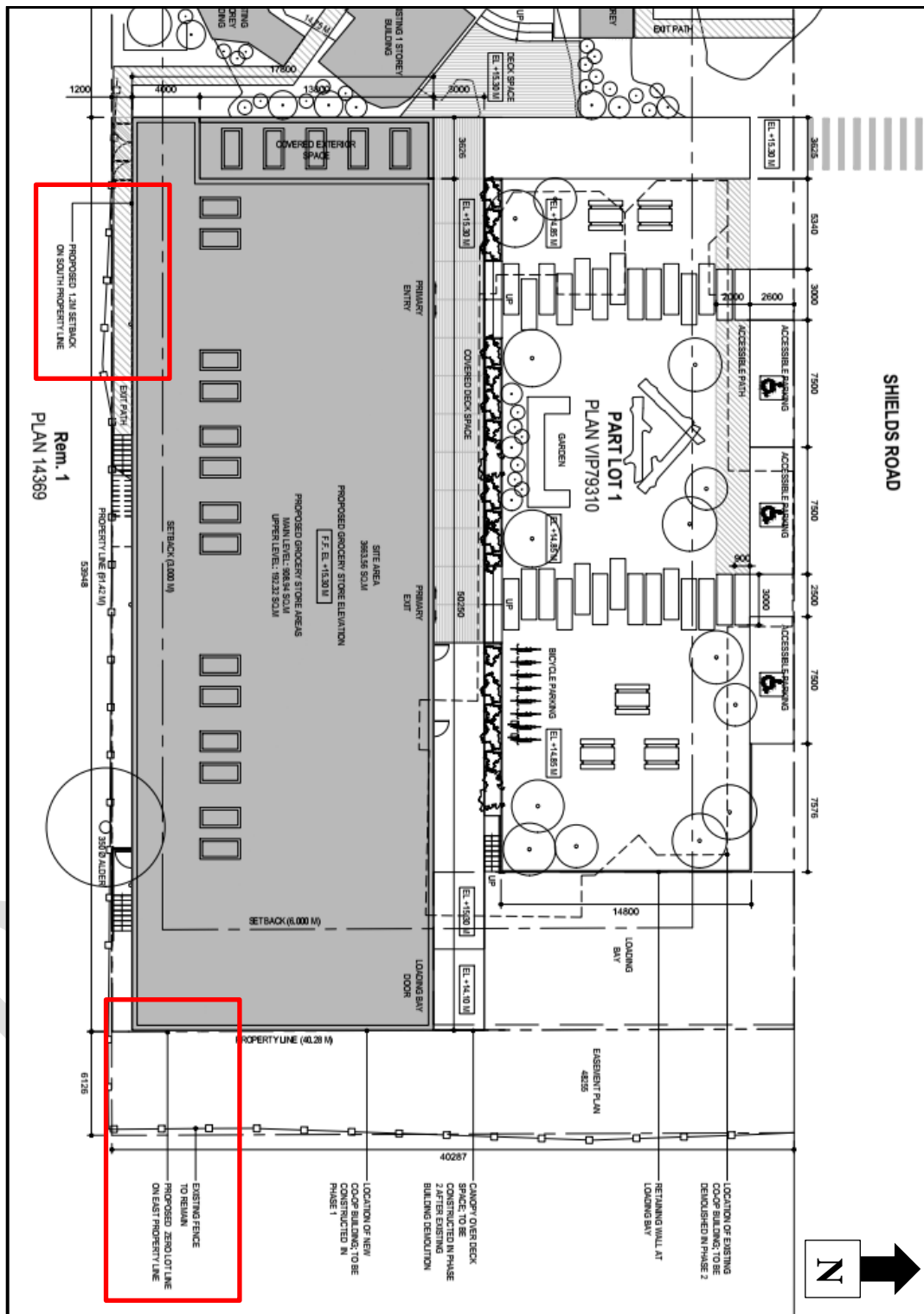
\_\_\_\_\_  
Deputy Secretary, Islands Trust

\_\_\_\_\_  
Date of Issuance

**IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE ##th DAY OF \_\_\_\_\_, 202X (2 YEARS FROM DATE OF ISSUANCE) THIS PERMIT AUTOMATICALLY LAPSES.**

**SCHEDULE 'A'**

**Site Plan**





# ATTACHMENT 6 - DRAFT DP

## HORNBY ISLAND LOCAL TRUST COMMITTEE DEVELOPMENT PERMIT PLDP20240156

To: Hornby Island Co-Operative Association, Inc. No. 710

1. This Development Permit (the “Permit”) applies to the land described below:

Lot 1, Sections 6 and 10, Hornby Island, Nanaimo District, Plan VIP79310  
PID 026-371-791

2. This Development Permit PLDP20240156 authorizes the construction and siting of the redevelopment components on the subject property including the new Co-op Store Building, Parking Areas, and Landscaping within the Commercial Centers (Retail and Visitor Accommodations) Development Permit Area, subject to the following requirements and conditions:

- a) The siting and dimensions of the development shall be substantially consistent with Schedule “A” – Site Plan and Schedule “B” – Building Plans and Elevations, attached to and forming part of this permit;
- b) Neon or internally lit signs shall not be permitted. Lighting shall be softer and lower than supplied by mercury vapour lighting towers. Lighting alternatives shall not light up adjacent private properties and Dark Skies principals should be used for any lighting on the buildings or on the surrounding grounds;
- c) Off-street automobile parking shall be provided as required by bylaw and shall be adequately screened and unobtrusive, and where possible, located and away from public open spaces and eating places;
- d) Natural vegetation and trees shall be maintained wherever possible for screening of parking and storage areas and to enhance the privacy and rural flavour of public open spaces;
- e) Adequate convenient toilet and washroom facilities shall be provided for the number of customers anticipated;
- f) Universal access design principles shall be incorporated into the built environment to support the provision of equitable access for all abilities;
- g) All measures and requirements of the Construction Environmental Management Plan by Current Environmental, dated must be adhered to for the duration of the project phases 1 and 2.

3. Any further development within designated Development Permit Areas will require a new Development Permit, or a Development Permit Amendment.

4. The area described herein shall be developed in accordance with the terms, conditions and provisions of this Permit, and any plans and specifications attached to this Permit, which shall form a part thereof.

5. This permit does not relieve the applicant from complying with the provisions of the Hornby Island Land Use Bylaw unless varied by this Permit.



Islands Trust

# PROPOSED

This permit is not a building permit and does not remove any obligation on the part of the permittee to comply with all other requirements of Hornby Island Land Use Bylaw No. 150, 2014 and to obtain other approvals necessary for completion of the proposed development.

**AUTHORIZING RESOLUTION PASSED BY THE HORNBY ISLAND LOCAL TRUST COMMITTEE THIS ##th DAY OF NOVEMBER, 2024.**

\_\_\_\_\_  
Deputy Secretary, Islands Trust

\_\_\_\_\_  
Date of Issuance

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# PROPOSED

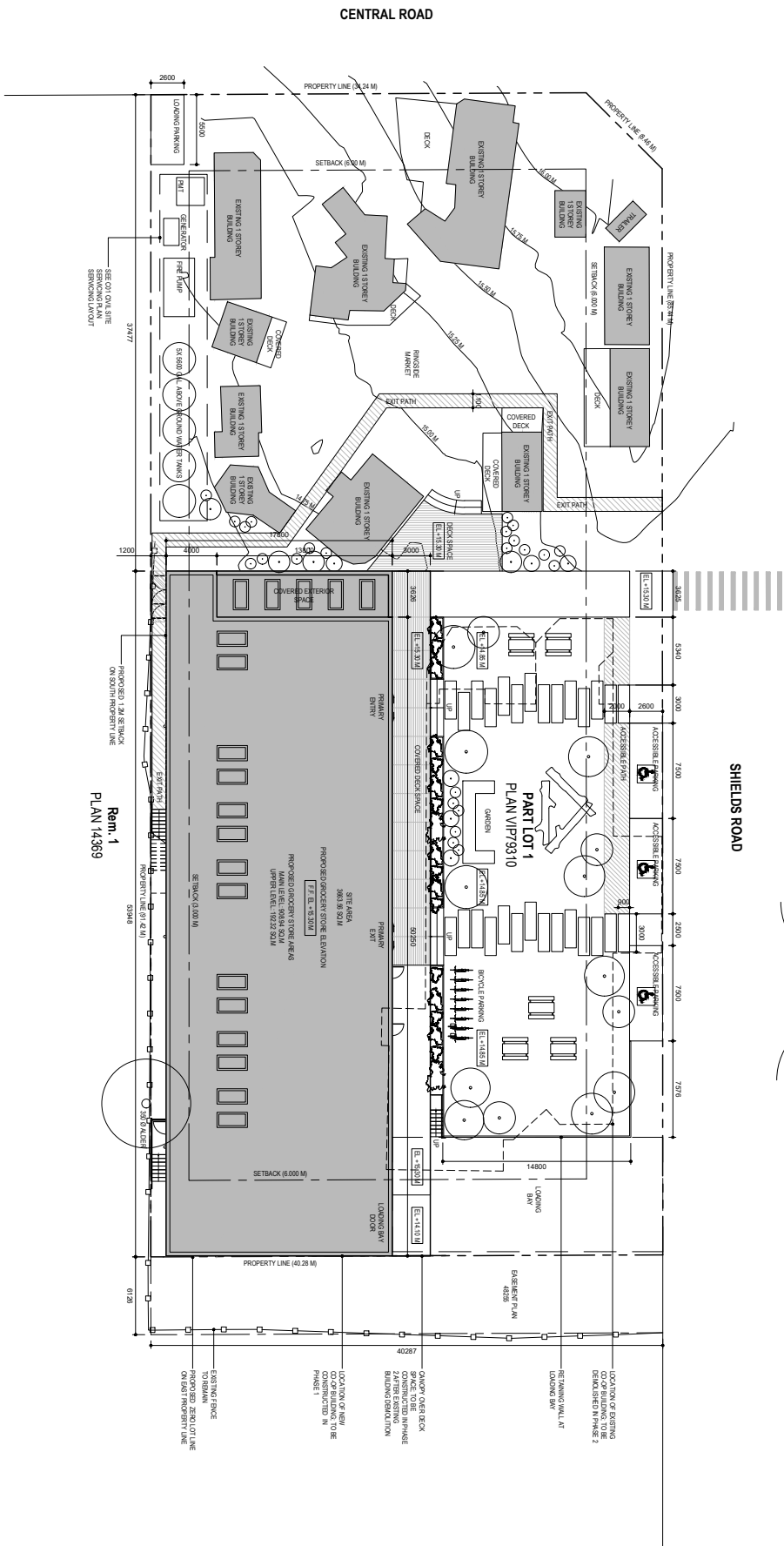
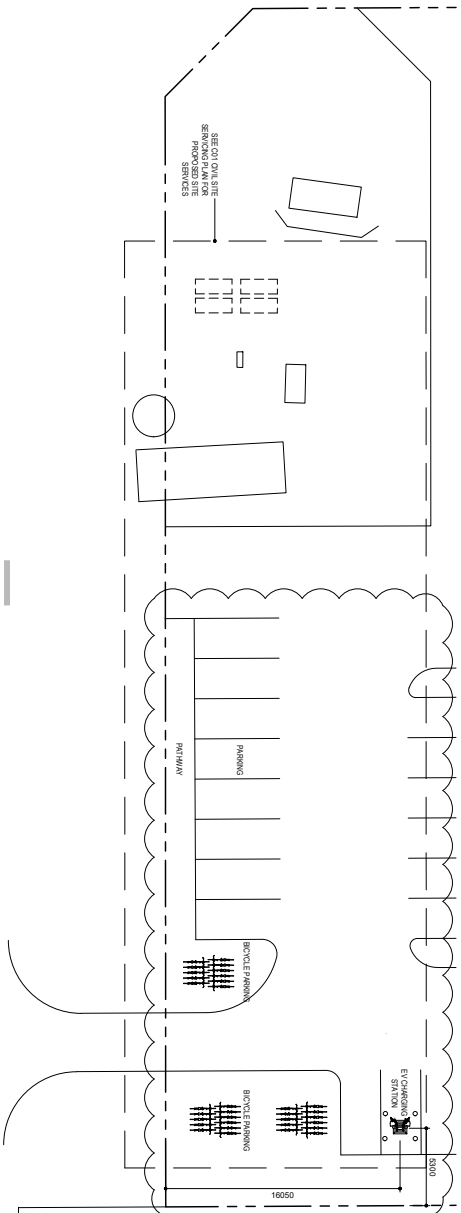
HORNBY ISLAND LOCAL TRUST COMMITTEE

Development Permit

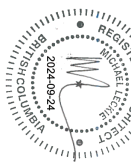
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SCHEDULE 'A' – Site Plan

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Rem. 1  
PLAN 14369



DATE	DESCRIPTION	BY
240823	ISSUED FOR PERMITS	LS
240726	ISSUED FOR DESIGN PERMIT	LS

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**Project**  
**Hornby Island**  
**Co-op**  
5975 Central Road  
Hornby Island BC

**Site Plan - Proposed**



Drawn/Checked	Project Code
LSMD	HIC
Scale	Date
1:200 @ 22.5 x 34	240823
1:400 @ 11.4 x 17	
Submitted/Date	Revised

**A011**



# PROPOSED

**HORNBY ISLAND LOCAL TRUST COMMITTEE**

**Development Permit**

**PLDP20240156**

**SCHEDULE 'B' – Building and Elevation plans**

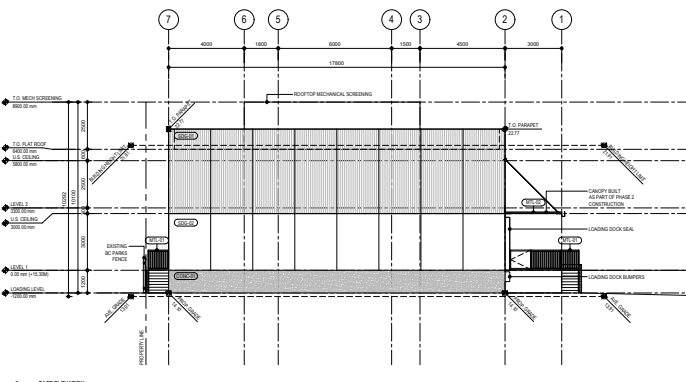
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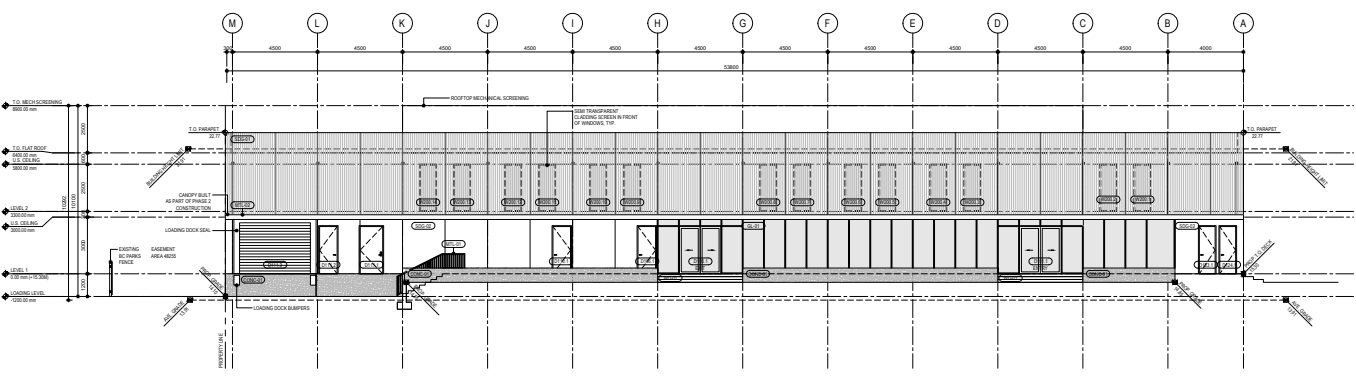


**MATERIAL LEGEND**

FINISH NO.	FINISH TYPE
CONC-01	CONCRETE FORMATION
GG-01	NON-COMBUSTIBLE GROUTING G1
GG-02	NON-COMBUSTIBLE GROUTING G2
MTL-01	METAL GUARD
MTL-02	ROOF CANOPY
WD-01	WOOD DOCKING
SL-01	STORAGE SLAZING



2 EAST ELEVATION  
ASB 1:50



4 NORTH ELEVATION  
ASB 1:50

1 SLOED FOR DEVELOPMENT PERMIT 240726

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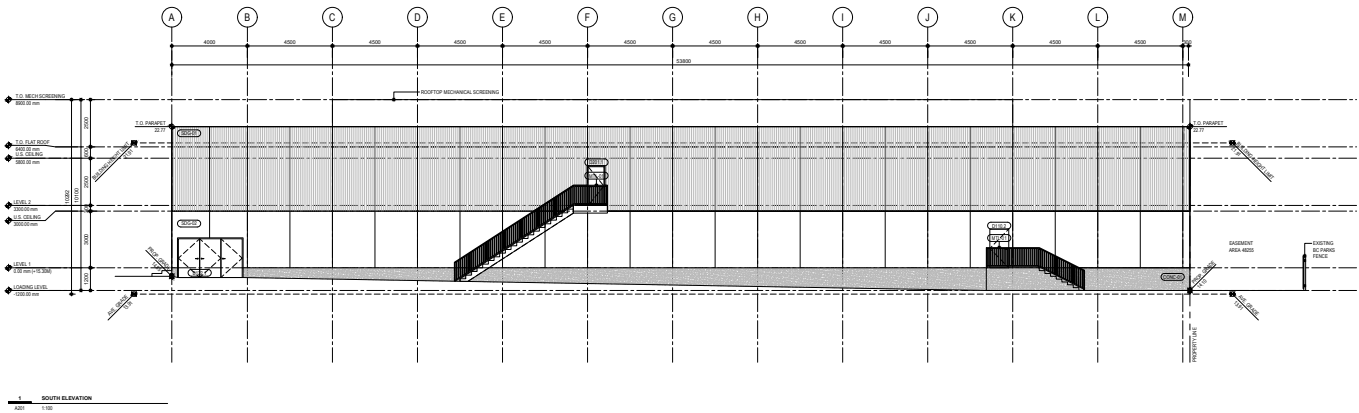
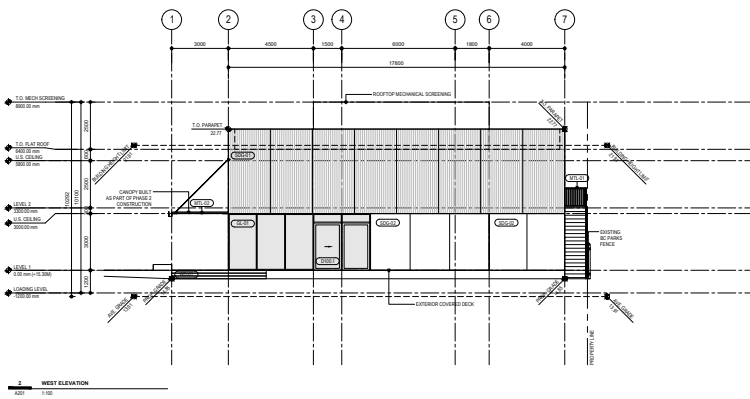
**Project**  
**Hornby Island Co-op**  
 5675 Central Road  
 Hornby Island, BC

**Drawing Title**  
**North + East Elevation**

Drawn / Checked	Project Code
LSAD	HIC
Scale	Date
1:50 (pg 2) x 1/4"	240726
1:250 (pg 1) x 1/4"	
Sheet Number	Revision

**A200**

Attachment 4



MATERIAL LEGEND

FINISH NO.	FINISH TYPE
CONC-01	CONCRETE FORMATION
GG-01	NON-COMBUSTIBLE CLADDING G1
GG-02	NON-COMBUSTIBLE CLADDING G2
MTL-01	METAL GUARD
MTL-02	ROOF CANOPY
WD-01	WOOD DOCKING
SL-01	STAIRMENT SLABING



1 ISSUED FOR DEVELOPMENT PERMIT 24075

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**Project**  
**Hornby Island Co-op**  
 5675 Central Road  
 Hornby Island, BC

**Drawing Title**  
**South + West Elevation**

Drawn / Checked	Project Code
LSAD	HIC
Date	Date
1100 (p. 2) 24	240726
1200 (p. 1) 17	
Sheet Number	Revision

**A201**



# ATTACHMENT 7 - Design Brief

## Hornby Island Co-op Redevelopment Project Civil Site Servicing Design Brief

Hornby Island Co-op  
5875 Central Road  
Hornby Island, BC  
V0R 1Z0



**Prepared by:**  
Herold Engineering Limited  
3701 Shenton Rd,  
Nanaimo, BC  
V9T 2H1

**Herold Project No.** 5023-002



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## Appendices

- A** Civil Drawings C01-C02, Rev A
- B** ON-SITE WASTEWATER SYSTEM EVALUATION AND UPGRADES – PROPOSED NEW CO-OP BUILDING
- C** Stormwater Management Calculations

## 1.0 Introduction

Herold Engineering Limited (Herold Engineering) has completed a Civil Site Servicing Design Brief for the proposed Hornby Island Co-op Redevelopment Project at 5875 Central Road on Hornby Island BC. This Civil Design Brief is intended to identify possible issues related to accessing and servicing this site and to suggest appropriate approaches for the civil engineering design of this development in support of a Development Permit and Siting and Use Permit Applications to the Islands Trust for the Hornby Island Co-op Redevelopment Project. It is based on information gathered through available survey, background reports provided by Leckie Studio Architecture + Design (Leckie Studio), meetings and correspondence with the project team, and existing infrastructure information provided through BC One Call.

The latest Civil Drawings C01-C02, Rev A, indicating locations and routing of Civil servicing are included in [Appendix A](#) of this report.

## 2.0 Project Setting

The project is located at 5875 Central Road, which is located on Hornby Island, where the Islands Trust is the authority having jurisdiction.

The subject lands comprise 1.29 ha (3.19 acres) in total, divided into the following two properties:

1. North Property: Consisting of an existing Co-op Gas Bar and Gravel Parking Area (0.92 ha).
2. South Property: Consisting of an existing Co-op General Store and Ringside Market (0.37 ha).

The two properties are separated by Shields Road running west-east along the frontages. Shields Road falls within the jurisdiction of the Ministry of Transportation and Infrastructure (MoTI).

## 3.0 Proposed Development

As presented in Leckie Studio's Architectural Drawings (to be submitted separately). The Hornby Island Co-op Association is planning to demolish the existing Co-op General Store and develop a new General Store – primarily grocery, including hardware store, Canada Post, liquor store, deli, office rooms, and loading areas. The new building would be built while the current building is still operating, and then a phase 2 build will be carried out to complete the new building after the existing is demolished.

The Ringside Market area will remain as is with an upgraded sanitary collection system tied into the General Store's proposed sanitary servicing facilities. Site access, parking, and landscaping improvements are proposed for the North Property.

## 4.0 Topography

The subject lands are separated by Shields Road, running west-east along the two property frontages and are bound on the west by Central Road, the south and east by Tribune Bay Campsite, and the north by Tribune Bay Provincial Park.

### **4.1 North Property - Co-op Gas Bar and Gravel Parking**

The North Property falls approximately 2m from the northwest corner (16m geodetic) to the southeast corner (14m geodetic). The topographic relief is modest with a gentle slope from northwest to southeast. An existing roadside ditch extends along the Shields Road frontage from the southwest corner of the property.

### **4.2 South Property - Co-op Grocery & Hardware Store and Ringside Market**

The South Property falls approximately 3m from the northwest corner (16m geodetic) to the southeast corner (13m geodetic). The topographic relief is modest with a gentle slope from northwest to southeast. An existing roadside ditch extends from the northeast property line.

## 5.0 Roads and Surface Works

### **5.1 Site Access**

The South Property is currently accessed by two existing asphalt driveways, one extending from Central Road at the southwest corner of the property and the other extending from Shields Road at the northeast corner. Both accesses lead to an existing asphalt parking lot to the south of the existing Co-op General Store Building. Both existing accesses are to be removed and replaced with a loading bay at the northeast corner of the property.

Primary access to the proposed Co-op General Store and Ringside Market on the south property will be from the North Property. The North Property is currently accessed by two exiting gravel driveways extending from St Johns Point Road, one at the southwest corner of the site and the other at the northwest corner. These two accesses are to remain in place and an additional one-way access is proposed from Shields Road at the southeast corner of the Property. The new one-way access will provide access to a gravel parking lot on the North Property. The new one-way access will remove the requirement for vehicles to perform complicated turning movements (U-turn/3-point turn) when changing travel direction from east to west along Shields Road. A MoTI Access Permit will be required for the proposed one-way access and a permit application will be submitted during detailed design.

The existing parking area on the North Property will be re-configured to increase parking capacity of the entire site. The North Property will consist of 105 standard vehicle stalls and two EV parking stalls. Landscaping buffers are anticipated between the rows of parking and the final configuration of landscaped areas will be determined through detailed design in coordination with the Project Team and Landscape Designer.



## **5.2 Shields Road**

Per legal survey information, Shields Road is located within a 20m-wide right-of-way. The Shields Road frontage currently consists of an approximately 9.0m wide asphalt surface (graded to the east) with two drive lanes (one in each direction), complete with a gravel shoulder, vegetated (grass-lined) ditch along the north side of the road, and informal parallel & perpendicular parking on the south side of the road. Utility poles extend along the north side of Shields Road with overhead BC Hydro and TELUs wires, and there is an existing service pole across from the existing Co-op General Store.

As part of the Co-op Redevelopment Project, frontage upgrades are proposed along Shields Road, with formalized perpendicular parking stalls along the north side of Shields Road and additional parallel parking stalls along the south side of the road for seniors and limited mobility uses. The final configuration of roadside parking stalls will be determined through detailed design in coordination with the Project Team and MoTI.

## **6.0 Water Servicing**

### **6.1 Domestic Overview**

From discussions with the Co-op Association and review of Payne Engineering Geology's Hydrogeological Assessment Report (July 27, 2009), There is currently an existing shallow (3.7m depth) water supply well (Well # 3745) on the South Property under the existing Co-op General Store that runs dry in the summer and fall. This well was the primary supply of water from about 1950 to 2009, servicing the Co-op General Store and Ring Side Market. As part of the Gas Bar expansion on the north property in 2009, a new deep (30.5m depth) groundwater supply well (Well #25401) was constructed and is currently the main supply of water for the site.

In 2009, comprehensive lab testing was conducted on Well #25401, showing that well water meets applicable health guidelines for the tests that were conducted (Payne Engineering Geology testing results to be submitted separately), with a reported well yield of 0.95 L/s (15 US gpm) and reported static water level of 3.0m (10ft).

Potable water for the new proposed Co-op General Store will be supplied by the existing deep groundwater well (Well #25401) and this well will also service the Ringside Market and Gas Bar Property. The existing shallow well (Well #3745) will be decommissioned in compliance with the Ground Water Protection Regulations and will require a BC Environment Well Closure Report.

As part of the development review process, we recommend that the well capacity off Well #25401 should be tested using a well pumping and draw-down test of at least 48 hours.

### **6.2 Fire Suppression Overview**

The following existing fire supply tanks on the North Property provide the Hornby Island Fire Department with fire supply for both properties as follows:

- Tank #1: A 20,000 USG (~75,700 L) steel tank.
- Tank #2: A 5,000 USG (~18,900 L) steel tank (non-operational).

Tank #1 is fed from Well # 25401 via. a submersible pump and 25Ø PE water service. A 150Ø PVC gravity fire supply main extends from the tank to a fire department connection standpipe at the corner of Central Road & Shields Road.

As part of the redevelopment of the Co-op General Store, two additional 5,600 USG (~21,200 L) PVC storage tanks are proposed on the north property beside Tank #1 and Tank #2 will be removed from site. Two additional 5,600 USG (~21,200 L) PVC storage tanks will replace Tank #1 in the future, as its life expectancy is approximately 10 years. The proposed tanks will be connected to the existing 25Ø PE water service extending from Well #25401.

Five additional 5,600 USG (~21,200 L) PVC storage tanks are proposed on the south property along the existing asphalt alley extending from Central Road and the tanks will provide 28,000 USG (~106,000 L) of water for sprinkler supply purposes. A fire pump and generator will be located beside these storage tanks for distribution. Storage tanks, pumps, and associated equipment are being designed by the Mechanical Consultant and the layout will be refined during detailed design.

### **6.3 Domestic Demand**

The Ministry of Forests, Lands, Natural Resource Operations & Rural Development's *Design Guideline for Rural Residential Community Water Systems* states that the sizing of pumps, storage tanks, and treatment works are to be designed to maximum day demand (MDD) conditions, which is defined as the single highest total 24-hour daily water consumption occurring over a one-year period. The MDD value includes indoor usage, water losses in the system, and irrigation demand.

The *Design Guideline for Rural Residential Community Water Systems* states that for non-residential water demands related to commercial developments, metering records or, in lack of that, conservative consumptions estimate need to be utilized to derive peak demands.

Currently, existing metering records are not available for this development and the Rural Design Guideline does not provide non-residential population density rates. In the absence of reliable water consumption records and/or specific municipal requirements, MMCD Design Guidelines 2022 were used to estimate water demands for the development and the anticipated domestic water demands are summarized in Table 6-1 below:

Table 6-1: Domestic Flow Demand (Commercial)\*

	<b>Flow Required (L/capita/day) *</b>	<b>Flow Demands (L/day)</b>	<b>Flow Demands (L/s)</b>
<b>Average Daily Domestic Flow (ADD)</b>	400	14,400	0.17
<b>Maximum Daily Domestic Flow (MDD)</b>	900	32,400	0.38
<b>Peak Hour Domestic Flow (PHD)</b>	1350	48,600	0.56

\* Development classified as "Commercial" (90ppha) Per MMCD Design Guidelines 2022 - total developed area of 0.40ha, including the new Co-op General Store, Ringside Market, and Gas Bar (see Civil Drawing C01, Rev A & Architectural Drawings for details).

The water loss allowance of a small water system is based on physical system parameters including the length of mains, number of service connections and average operating pressure. Based on the



small size of the system and small number of service connections, the water losses are expected to be negligible.

The irrigation demand is dependent on a number of parameters such as evapotranspiration, type of vegetation, size of area, soil types and irrigation efficiency. Based on anticipated strict water conservation measures, there is expected to be little irrigation demand for the development. Rainwater cisterns are proposed as shown on Civil Drawing C01, Rev A and will be utilized for manual irrigation as needed.

Based on the above numbers, the total maximum daily water demand is estimated to be 0.38 L/s, which is less than the reported well yield value of 0.95 L/s, a ratio of 2.5:1.

#### **6.4 Fire Demand**

Based on input from the Hornby Island Fire Department and the Mechanical Consultant, the development will require the following minimum storage and flow requirements:

- Sprinkler fire flow: 375 USG/min (23.66 L/s) continuous for 1 hour, resulting in a minimum required storage of 22,500 USG (~85,200 L).
- Supplemental fire department flow: 250 USG/min (15.77 L/s) continuous for 1 hour, resulting in a minimum required storage of 15,000 USG (~56,800 L).

The sprinkler fire flow water is proposed to be stored on the South Property in five new 5,600 USG (21,200 L) PVC storage tanks, totaling 28,000 USG (~106,000 L), while the supplemental fire department flow water is proposed to be stored on the North Property in a combination of existing and proposed tanks totaling over 30,000 USG (~113,600 L).

It was also determined that a fire department staging area with three remote fire department connections (FDCs) be constructed near the existing crosswalk across Shields Road.

1. Remote FDC #1: Fill / usage port connected to the fire department storage tanks on the north property.
2. Remote FDC #2: Fill port connected to the sprinkler storage tanks on the south property.
3. Remote FDC #3: Fire sprinkler suppression line connected to the Co-op General Store Building.

Through detailed design, the Mechanical Consultant will confirm storage, flow, and pressure requirements for the fire suppression system and will establish storage tank and fire pump entry schematics along with detailed design drawings.

#### **6.5 Water Reservoirs**

Domestic water storage reservoirs will be located under the proposed building slab and will be fed from Well #25401 with auto shutoff controls and submersible pumps to supply the Co-op General Store with potable water.

In addition to the domestic water reservoirs, fire storage reservoirs will be located under the proposed landscaped area and will be fed from the proposed building's rood leader system with auto shutoff controls and submersible pumps to supply the sprinkler fire flow storage tanks with water. An overflow will divert runoff to the developments detention system (see section 8.5).

The final size and configuration of tanks and pumps will be determined through detailed design in coordination with the Project Team and Mechanical Consultant.

### **6.6 Water Treatment and Approvals**

Based on comprehensive lab testing of Well #25401 (2009), it was determined that the water meets drinking water health guidelines for the constituents analyzed. The tests, including analyses recommended by Island Health, raised no concerns regarding health risks to people drinking this water, however, it was recommended that the Co-op should continue to filter and disinfect the well water using the existing point of entry (POE) treatment system (previous testing and treatment records to be submitted separately).

The final water treatment system for the proposed Co-op General Store and water testing program for the site is to be designed by others and will be provided separately.

## **7.0 Sanitary Servicing**

Per available Hornby Island Co-op record drawings, there are a series of tanks, pumps, controls, and effluent piping that make up the existing sanitary collections system for the existing Co-op General Store, Ringside Market, and Gas Bar, with piping crossing Shields Road, conveying effluent from the South Property to an in-ground disposal field on the North Property.

The Project Teams wastewater system specialists are responsible for the evaluation of the existing system and design of the proposed upgrades to the collection system (sanitary, greywater and effluent piping), tanks, and treatment system (see Ron McMurtrie and Associates, Consulting Engineers memo "ON-SITE WASTEWATER SYSTEM EVALUATION AND UPGRADES – PROPOSED NEW CO-OP BUILDING", copy enclosed as **Appendix B**).

For reference, the proposed upgrades summarized in the McMurtrie servicing memo are shown on Civil Drawing C01, Rev A.

## **8.0 Stormwater Management Plan**

The following Stormwater Management Plan (SWMP) has been prepared in support of a Development Permit and Siting and Use Permit Applications to the Islands Trust for the Hornby Island Co-op Redevelopment Project and has been created based on the principals outlined in the BCMoTI Supplement to TAC Geometrics Design Guide - 1000 Hydraulics Chapter (2019). Additionally, the "Stormwater Source Control Design Guidelines 2012" (SSCDG) were consulted for stormwater management best practices.

The SWMP is intended to outline the existing and proposed stormwater management features for the site, present a design concept demonstrating how the project's stormwater runoff may be managed in keeping with its physical properties, proximity to existing civil infrastructure, and satisfy MoTI design requirements for Land Development Drainage Design in Section 1010.03 of the B.C. Supplement to TAC Geometric Design Guide and other applicable regulatory requirements.

The stormwater management design concepts presented herein represent a first step in the design process and do not represent detailed engineering designs for the project. HEL's detailed engineering designs for the project will be prepared and submitted to the Islands Trust and MoTI for approvals at the time of Building Permit applications in due course.

### **8.1 Site Overview**

The overall site is approximately 1.29 ha (3.19 acres) consisting of North & South Properties that are separated by Shields Road, running west-east along the frontages. The site is bound on the west by Central Road, the south and east by Tribune Bay Campsite, and the north by Tribune Bay Provincial Park.

The "developed area" (0.22 ha) consists of the proposed Co-op General Store, loading bay, landscaping and patio areas (all on the South Property) and from a stormwater management perspective, only this area will be considered for stormwater management purposes.

### **8.2 Design Criteria**

The drainage design criteria for the project are based on the principals outlined in the BCMoTI Supplement to TAC Geometrics Design Guide - 1000 Hydraulics Chapter (2019) and are summarized below:


- Flow rates calculated using the Rational Method.
- Rainfall Intensity Duration Frequency (IDF) Data based on Environment Canada's Comox Valley Airport rain gauge.
- 20% increase in post-development rainfall intensities to account for future climate change impacts.
- For land development a required assessment of receiving ditches for peak flows greater than a 5-year return period up to a 100-year return period.
- Detention should be designed to reduce all post-development discharge up to the 5-year return period to the corresponding pre-development rates.


### **8.3 Existing Conditions**

Currently, the existing Co-op General Store appears to have an un-attenuated 200Ø PVC storm service, extending from the existing store and parking lot, discharging into an existing roadside ditch at the northeast corner of the site. The ditch is graded east along the south side of Shields Road, conveying runoff toward Tribune Bay.

### **8.4 Catchment Area Summary**

From a stormwater management perspective, the post development site is divided into three regions and each area will utilize a central detention system to limit the post-development flows to pre-development flows (see Figure 8-1, Excerpt from Civil Drawing C02, Rev A).

 **(A1: 0.07 ha):** The landscaped portion of the site will consist of absorbent soils and planting and runoff from this area will be directed to a detention tank via an onsite storm system consisting of catch basins and storm mains (landscape design by others).

 **(A2: 0.03 ha):** The loading bay area and roadside parking runoff will be directed to a detention tank via an onsite storm system consisting of catch basins and storm mains.

- (A3: 0.12 ha):** The building footprint runoff will be directed to a detention tank via a single connection point to the roof leader and perimeter drains, to be coordinated with the Mechanical Engineer.

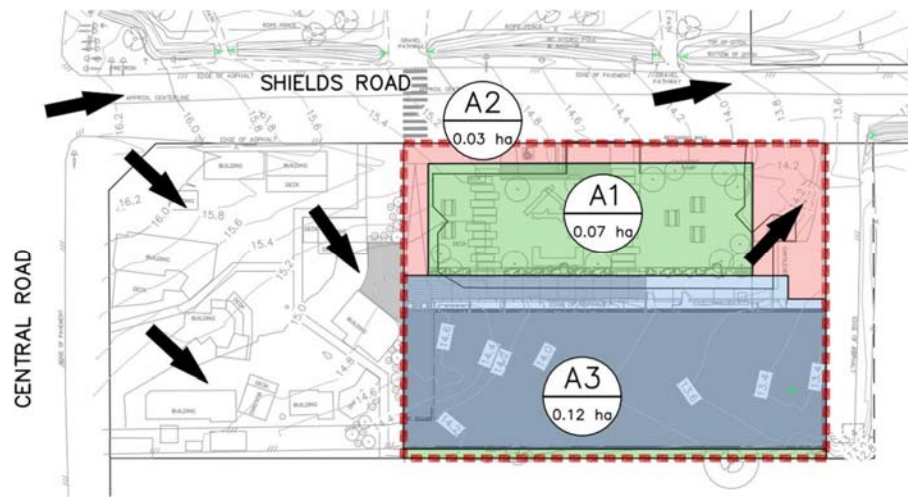


Figure 8-1: Stormwater Management Catchment Areas

### 8.5 Detention and Discharge

The majority of stormwater that lands on the impermeable surfaces (building, roads, and hardscaping) will be directed via roof leaders, overland flow, catch basins and storm mains to the proposed detention system consisting of below-grade precast concrete cisterns. The detention cisterns will be designed to provide supplemental water to the fire storage tanks.

Using the Comox Valley Airport IDF curve the 2-year, 5-year, 10-year, 25-year, and 100-year rainfall events were analyzed using the rational method. This was used to determine the pre and post development discharge as well as the detention requirements. Rainfall Intensities were augmented by 20% to account for climate change. See the summary in Table 8-1 below and [Appendix C](#) for detailed calculations.

Table 8-1: Stormwater Detention Summary

Event	Pre-development Flow (l/s)	Post-Development Flow (l/s)	Attenuated Post-Development Flow Rate (L/s)	Detention Storage Volume (m <sup>3</sup> )
<b>2-Year</b>	3.6	12.0	3.6	6.8
<b>5-Year</b>	5.1	17.2	5.1	9.0
<b>10-Year</b>	6.2	20.7	6.2	10.5
<b>25-Year</b>	7.4	25.0	7.5	12.4
<b>100-Year</b>	9.3	31.4	9.3	15.2

The detention system will outlet into an orifice-control manhole that regulates the outflow to the pre-development flow rates. The outflow rates would be controlled for a 2-year, 5-year, 10-year, 25-year, and 100-year events. The flow control manhole outlet will discharge to the ditch at the northeast corner of the site frontage and will not alter the current flow path leaving the site.

The site will have some onsite capacity to retain stormwater. Approximately 30% of the developed site area will consist of landscaping and planted areas; these areas will be considered to retain and/or infiltrate any stormwater that lands directly on them but will not be designed to accept any additional runoff.

### **8.6 Water Quality**

All runoff from the loading bay area will flow through an oil/grit separator before entering the detention system. The sizing of the oil/grit separator will be completed during detail design.

### **8.7 Downstream Conditions**

There is existing roadside ditching along the south side of Shields Road conveying stormwater east toward Tribune Bay. Since the detention tank and orifice-control manhole will limit post-development runoff to pre-development levels, the proposed development is not expected to adversely affect the receiving downstream ditching.

### **8.8 Overflow and Major System**

The onsite storm system is designed to convey up to a 100-year event to the underground detention tank and the proposed development will include site grading to promote drainage to the onsite storm system and away from surrounding buildings and neighbouring properties.

Currently, the overland flow greater than a 100-year rainfall event would travel overland to the east toward Shields Road. The proposed development would not significantly alter this path.

### **8.9 Erosion and Sediment Control**

An Erosion and Sediment Control Plan meeting current Islands Trust requirements and best practices will be prepared and submitted with the application for Building Permit.

## **9.0 Conclusion**

The servicing strategies and options provided in this Civil Site Servicing Brief are based on the current level of design detail and will be refined as coordination continues amongst consultants. The attached Civil Drawings C01-C02, Rev A, incorporates information received to this point, as well as the proposed servicing concept.

Based on the above, we are of the opinion that the existing and proposed road, water, and sanitary & storm sewer infrastructure are likely adequate to service the proposed development, subject to confirmation through detailed design.

We trust this Civil Site Design Brief meets applicable guidelines and satisfies Islands Trust & MoTI requirements at this time. Please contact the undersigned should you have questions or comments.

Yours truly,

**HEROLD ENGINEERING LIMITED**



Jake Pinneo, EIT  
Design Engineer



Patrick Ryan, P.Eng  
Project Engineer

Permit to Practice No. 1000201



2024-07-26

Enclosure

# Appendix A









## Appendix B

July 12, 2024

Hornby Island Co-op  
5785 Central Road  
Hornby Island, BC  
V0R 1Z0

Attention: Mr. Jake Berman, Manager

**RE: ON-SITE WASTEWATER SYSTEM EVALUATION AND UPGRADES – PROPOSED NEW CO-OP BUILDING**

**LEGAL DESCRIPTION: LOT 1, SECTIONS 6 AND 10, HORNBY ISLAND, NANAIMO DISTRICT, PLAN VIP79310**

**OUR FILE: 1080**

Dear Sir:

We have reviewed the proposed plans and use and occupancy for the new Hornby Island Co-op building. Additionally, we have revisited present and potential future use and occupancy for the adjacent Ringside Market area and the Gas Bar. Our review and evaluation consisted of the following:

1. Monitoring of flow data and wastewater sampling from the existing wastewater treatment system to provide a baseline for future flows and wastewater strength.
2. Evaluation of a new Daily Design Flow (DDF) in accordance with the BC Sewerage System Regulation (SSR) based on monitored flows and published commercial flow rates in the BC Standard Practice Manual (SPM-V3) and other wastewater reference texts.
3. Evaluation of the nature and strength of the wastewater based on a commercial occupancy including the inclusion of a new food services/restaurant component and public washrooms for the new Co-op building.
4. Review of the existing tanks, collection system, wastewater treatment system and dispersal field (Island Health Filing No. CV07-172).
5. Evaluation of the existing system capacity and required up-grade requirements to accommodate the proposed Co-op building.
6. Specification of new tanks and collection system, upgrades to the existing treatment system and evaluation of the existing dispersal field capacity to receive and safely treat the effluent from the proposed upgraded system based on the proposed future occupancy.

The proposed Daily Design Flow for the new building combined with the existing facilities is DDF = 12,000 litres per day (lpd) (the existing system was filed for a DDF = 7,320 lpd). Wastewater characteristic is defined as primarily blackwater (toilets for staff and the public) plus high-strength commercial (restaurants, café and kitchen food processing facilities). Estimated wastewater strength (composite organic loading) is 400 mg/l BOD<sub>5</sub> (5-day Biochemical Oxygen Demand) after primary treatment. Proposed effluent quality after advanced secondary treatment and prior to discharge to the dispersal field is 20mg/l BOD<sub>5</sub> and 20mg/l TSS (Total Suspended Solids). This exceeds Type 2 treatment levels as defined in the SSR of 45mg/l BOD<sub>5</sub> and TSS.

Upgrades to the system based on the proposed DDF and wastewater strength have been designed in accordance and with reference to the following documents and standards: The BC Standard Practice

Ron McMurtrie and Associates, Consulting Engineers

Wastewater System Specialists

Comox/Hornby Island, BC 250-335-2685

[jasbreez@island.net](mailto:jasbreez@island.net)

Manual (SPM-V3); Engineers and Geoscientists of British Columbia, E.G.B.C. Professional Practice Guidelines, On-site Sewerage Systems and; Orenco Systems Inc, AdvanTex Commercial Treatment Systems – Design Criteria.

Upgrades to the system include the following:

- A. New Greywater (restaurant and kitchen solids/grease interception) tanks: 2 @ 11,400 litres plus 1 @ 3,400 litres. Total 4.6 days hydraulic retention time (HRT) combined with existing tankage.
- B. New Primary tanks: 3 @ 11,400 litres. Total 4.2 days HRT combined with existing tankage.
- C. New Treatment System Capacity: Addition of new AdvanTex filters, 4 – AX20 units for a total of 8 – AX20 units. Hydraulic capacity at peak daily flow is 30,000 lpd. Maximum influent BOD<sub>5</sub> at peak daily flow is 485 mg/l.
- D. The existing dispersal field is adequately sized to accommodate the proposed DDF = 12,000 lpd. This is based on a custom Hydraulic Loading Rate (HLR) of 85 litres/day/sq.m. and an Organic Loading Rate of 0.0017 kg BOD<sub>5</sub>/day/sq.m.

Proposed upgrades to the collection system (sanitary, greywater and effluent piping), tanks and the AdvanTex treatment system are shown on the Civil Engineering site servicing plan prepared by Herold Engineering Limited. The Herold drawings will be submitted attached to the Islands Trust application. Detailed design drawings and filing documents submitted to Island Health will be prepared later to meet the project schedule.

We trust the foregoing meets your needs regarding sewerage system design and capacity evaluation for your Development Permit and Siting and Use Permit applications to Islands Trust for the proposed Hornby Island Co-op building project.

Please do not hesitate to contact the undersigned if you require any further information.

Yours truly,



Ron McMurtrie, P.Eng.  
E.G.B.C. Permit to Practice No. 1002218

## Appendix C

**PROJECT NAME:** Hornby Island Co-op Redevelopment  
**PROJECT LOCATION:** Hornby, BC  
**DESIGNED BY:** Jake Pinneo, EIT.  
**REVIEWED BY:** Patrick Ryan, P.Eng.

**HEL PROJECT No.:** 5023-002/03  
**DATE:** 26/07/2024

Predevelopment Area	C	Area (m <sup>2</sup> )	Area (ha)
Forested	0.25	2170	0.22
N/A	0.00	0	0.00
<b>Total Average</b>	<b>0.25</b>	<b>2170</b>	<b>0.22</b>

Post Development Area	C	Area (m <sup>2</sup> )	Area (ha)
Building Area	0.90	1175	0.12
Hardscaping (Asphalt & Concrete)	0.90	330	0.03
Landscaping	0.25	665	0.07
N/A	0.00	0	0.00
N/A	0.00	0	0.00
<b>Total Average</b>	<b>0.70</b>	<b>2170</b>	<b>0.22</b>

<b>IDF Curve</b>	<b>COMOX AIRPORT</b>	<b>+20%</b>
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1. Based on the Environment Canada 2022 IDF Curves for Comox Airport
2. 20% Added to Intensities for climate change

Results Summary				
Storm event	Pre-Development Flow Rate (L/s)	Post-Development Flow Rate (L/s)	Attenuated Post-Development Flow Rate (L/s)	Total Detention Volume (m <sup>3</sup> )
2-Year	3.6	12.0	3.6	6.8
5-Year	5.1	17.2	5.1	9.0
10-Year	6.2	20.7	6.2	10.5
25-Year	7.4	25.0	7.4	12.4
100-Year	9.3	31.4	9.3	15.2

Pages Following:

- 2-Year Calculations
- 5-Year Calculations
- 10-Year Calculations
- 25-Year Calculations
- 100-Year Calculations
- Orifice Flow Control Calculations
- Storage Calculations

Permit to Practice No. 1000201



2024-07-26

**PROJECT NAME:** Hornby Island Co-op Redevelopment  
**PROJECT LOCATION:** Hornby, BC  
**DESIGNED BY:** Jake Pinneo, EIT.  
**REVIEWED BY:** Patrick Ryan, P.Eng.

**HEL PROJECT No.:** 5023-002/03  
**DATE:** 26/07/2024

<b>IDF Curve</b>	COMOX AIRPORT	2-Year	20% Added to Intensities
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<b>Time of Concentration (min)</b>	<b>R=A*t<sub>c</sub><sup>B</sup></b>
t <sub>c</sub> (Pre)	10
t <sub>c</sub> (Post)	10
	<b>A<sub>2</sub>=</b> 10.5
	<b>B<sub>2</sub>=</b> -0.452

Predevelopment Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Forested	0.25	2170	0.22	3.6
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.25</b>	<b>2170</b>	<b>0.22</b>	<b>3.6</b>

Post Development Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Building Area	0.90	1175	0.12	8.3
Hardscaping (Asphalt & Concrete)	0.90	330	0.03	2.3
Landscaping	0.25	665	0.07	1.3
N/A	0.00	0	0.00	0.0
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.70</b>	<b>2170</b>	<b>0.22</b>	<b>12.0</b>

Duration (hr)	I (mm/hr)	Inflow (L/s)	Total Inflow Volume over Duration (L)	Total Allowable Outflow Volume over Duration (L)	Storage Required (m <sup>3</sup> )
0.083	32.3	16.4	4913	1068	3.8
0.117	27.7	14.1	5908	1495	4.4
0.133	26.1	13.2	6357	1708	4.6
0.167	23.6	12.0	7184	2136	5.0
0.500	14.4	7.3	13116	6407	6.7
0.750	12.0	6.1	16380	9610	6.8
1.000	10.5	5.3	19177	12813	6.4
1.083	10.1	5.1	20037	13881	6.2

<b>Maximum Storage Required (m<sup>3</sup>)</b>	<b>6.8</b>
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Permit to Practice No. 1000201



**PROJECT NAME:** Hornby Island Co-op Redevelopment  
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**REVIEWED BY:** Patrick Ryan, P.Eng.

**HEL PROJECT No.:** 5023-002/03  
**DATE:** 26/07/2024

<b>IDF Curve</b>	COMOX AIRPORT	5-Year	20% Added to Intensities
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<b>Time of Concentration (min)</b>	<b>R=A*t<sub>c</sub><sup>B</sup></b>
t <sub>c</sub> (Pre)	10
t <sub>c</sub> (Post)	10
	<b>A<sub>2</sub>=</b> 14.3
	<b>B<sub>2</sub>=</b> -0.482

Predevelopment Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Forested	0.25	2170	0.22	5.1
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.25</b>	<b>2170</b>	<b>0.22</b>	<b>5.1</b>

Post Development Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Building Area	0.90	1175	0.12	12.0
Hardscaping (Asphalt & Concrete)	0.90	330	0.03	3.4
Landscaping	0.25	665	0.07	1.9
N/A	0.00	0	0.00	0.0
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.70</b>	<b>2170</b>	<b>0.22</b>	<b>17.2</b>

Duration (hr)	I (mm/hr)	Inflow (L/s)	Total Inflow Volume over Duration (L)	Total Allowable Outflow Volume over Duration (L)	Storage Required (m <sup>3</sup> )
0.083	47.4	24.0	7210	1535	5.7
0.100	43.4	22.0	7924	1841	6.1
0.117	40.3	20.4	8582	2148	6.4
0.167	33.9	17.2	10324	3069	7.3
0.250	27.9	14.2	12737	4604	8.1
0.500	20.0	10.1	18238	9207	9.0
0.750	16.4	8.3	22501	13811	8.7
1.000	14.3	7.3	26117	18414	7.7

<b>Maximum Storage Required (m<sup>3</sup>)</b>	<b>9.0</b>
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Permit to Practice No. 1000201





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**HEL PROJECT No.:** 5023-002/03  
**DATE:** 26/07/2024

<b>IDF Curve</b>	COMOX AIRPORT	10-Year	20% Added to Intensities
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<b>Time of Concentration (min)</b>		<b>R=A*t<sub>c</sub><sup>B</sup></b>	
t <sub>c</sub> (Pre)	10	<b>A<sub>2</sub>=</b>	16.8
t <sub>c</sub> (Post)	10	<b>B<sub>2</sub>=</b>	-0.495

Predevelopment Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Forested	0.25	2170	0.22	6.2
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.25</b>	<b>2170</b>	<b>0.22</b>	<b>6.2</b>

Post Development Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Building Area	0.90	1175	0.12	14.4
Hardscaping (Asphalt & Concrete)	0.90	330	0.03	4.0
Landscaping	0.25	665	0.07	2.3
N/A	0.00	0	0.00	0.0
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.70</b>	<b>2170</b>	<b>0.22</b>	<b>20.7</b>

Duration (hr)	I (mm/hr)	Inflow (L/s)	Total Inflow Volume over Duration (L)	Total Allowable Outflow Volume over Duration (L)	Storage Required (m <sup>3</sup> )
0.083	57.5	29.2	8748	1845	6.9
0.100	52.5	26.6	9592	2214	7.4
0.117	48.7	24.7	10368	2583	7.8
0.167	40.8	20.7	12414	3691	8.7
0.250	33.4	16.9	15235	5536	9.7
0.500	23.7	12.0	21621	11072	10.5
0.750	19.4	9.8	26534	16607	9.9
1.000	16.8	8.5	30683	22143	8.5

<b>Maximum Storage Required (m<sup>3</sup>)</b>	<b>10.5</b>
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Permit to Practice No. 1000201



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**REVIEWED BY:** Patrick Ryan, P.Eng.

**HEL PROJECT No.:** 5023-002/03  
**DATE:** 26/07/2024

<b>IDF Curve</b>	COMOX AIRPORT	25-Year	20% Added to Intensities
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Time of Concentration (min)		$R=A \cdot t_c^B$
t <sub>c</sub> (Pre)	10	A <sub>2</sub> = 19.9
t <sub>c</sub> (Post)	10	B <sub>2</sub> = -0.506

Predevelopment Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Forested	0.25	2170	0.22	7.4
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.25</b>	<b>2170</b>	<b>0.22</b>	<b>7.4</b>

Post Development Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Building Area	0.90	1175	0.12	17.4
Hardscaping (Asphalt & Concrete)	0.90	330	0.03	4.9
Landscaping	0.25	665	0.07	2.7
N/A	0.00	0	0.00	0.0
N/A	0.00	0	0.00	0.0
<b>Total Average</b>	<b>0.70</b>	<b>2170</b>	<b>0.22</b>	<b>25.0</b>

Duration (hr)	I (mm/hr)	Inflow (L/s)	Total Inflow Volume over Duration (L)	Total Allowable Outflow Volume over Duration (L)	Storage Required (m <sup>3</sup> )
0.083	70.0	35.5	10649	2229	8.4
0.100	63.8	32.4	11653	2675	9.0
0.117	59.0	29.9	12575	3121	9.5
0.167	49.3	25.0	14998	4459	10.5
0.250	40.1	20.4	18324	6688	11.6
0.500	28.3	14.3	25807	13376	12.4
0.750	23.0	11.7	31530	20063	11.5
1.000	19.9	10.1	36345	26751	9.6

<b>Maximum Storage Required (m<sup>3</sup>)</b>	<b>12.4</b>
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**DATE:** 26/07/2024

<b>IDF Curve</b>	COMOX AIRPORT	100-Year	20% Added to Intensities
<b>Time of Concentration (min)</b>			
$t_c$ (Pre)	10		
$t_c$ (Post)	10		
		<b><math>R=A \cdot t_c^B</math></b>	
		<b><math>A_2=</math></b> 24.5	
		<b><math>B_2=</math></b> -0.518	

Predevelopment Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Forested	0.25	2170	0.217	9.3
N/A	0.00	0	0.000	0.0
<b>Total Average</b>	<b>0.25</b>	<b>2170</b>	<b>0.217</b>	<b>9.3</b>

Post Development Area	C	Area (m <sup>2</sup> )	Area (ha)	Flow (L/s)
Building Area	0.90	1175	0.118	21.9
Hardscaping (Asphalt & Concrete)	0.90	330	0.033	6.1
Landscaping	0.25	665	0.067	3.4
N/A	0.00	0	0.000	0.0
N/A	0.00	0	0.000	0.0
<b>Total Average</b>	<b>0.70</b>	<b>2170</b>	<b>0.217</b>	<b>31.4</b>

Duration (hr)	I (mm/hr)	Inflow (L/s)	Total Inflow Volume over Duration (L)	Total Allowable Outflow Volume over Duration (L)	Storage Required (m <sup>3</sup> )
0.083	88.8	45.0	13508	2804	10.7
0.100	80.8	41.0	14749	3365	11.4
0.117	74.6	37.8	15886	3926	12.0
0.167	62.0	31.4	18866	5608	13.3
0.250	50.2	25.5	22938	8413	14.5
0.500	35.1	17.8	32037	16825	15.2
0.750	28.4	14.4	38952	25238	13.7
1.000	24.5	12.4	44746	33651	11.1

<b>Maximum Storage Required (m<sup>3</sup>)</b>	<b>15.2</b>
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Orifice Equation:  $Q = CA(2gh)^{0.5}$

Q = Allowable release rate (m<sup>3</sup>/s)

C = Orifice coefficient (0.62 for sharp or square edge)

A = Area of orifice (m<sup>2</sup>)

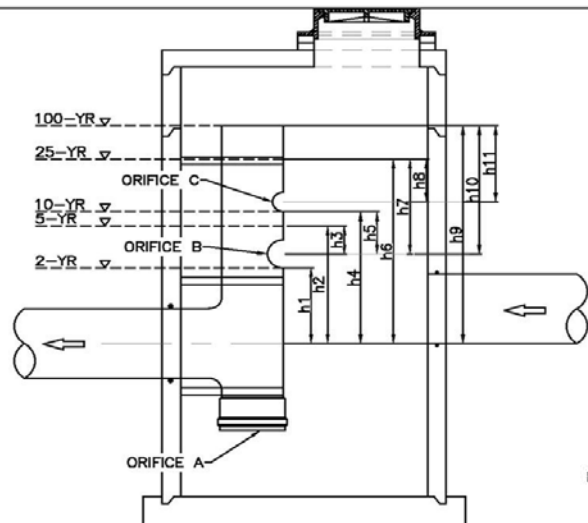
g = Gravity (9.81m/s<sup>2</sup>)                      Jake Pinneo, EIT.

h = Net head on orifice (m) from design drawings

Event	Target Flow (l/s)	C		h (m)	Orifice	Orifice Dia. (mm)	Orifice Area (m <sup>2</sup> )	Flows (l/s)	Total Flows (l/s)
<b>2 Year</b>	<b>3.6</b>	0.62	<b>h1</b>	<b>0.570</b>	<b>A</b>	47	0.0017	3.60	<b>3.6</b>
5 Year		0.62	<b>h2</b>	<b>0.710</b>	<b>A</b>	47	0.0017	4.01	
5 Year		0.62	<b>h3</b>	0.121	<b>B</b>	38	0.0011	1.08	
<b>5 year - Total</b>	<b>5.1</b>								<b>5.1</b>
10 Year		0.62	<b>h4</b>	<b>0.890</b>	<b>A</b>	47	0.0017	4.49	
10 year		0.62	<b>h5</b>	0.301	<b>B</b>	38	0.0011	1.71	
<b>10 year</b>	<b>6.2</b>								<b>6.2</b>
25 year		0.62	<b>h6</b>	<b>1.045</b>	<b>A</b>	47	0.0017	4.87	
25 year		0.62	<b>h7</b>	0.456	<b>B</b>	38	0.0011	2.10	
25 year		0.62	<b>h8</b>	0.143	<b>C</b>	25	0.0005	0.51	
<b>25 Year Total</b>	<b>7.4</b>								<b>7.4</b>
100 year		0.62	<b>h9</b>	<b>1.380</b>	<b>A</b>	47	0.0017	5.60	
100 year		0.62	<b>h10</b>	0.791	<b>B</b>	38	0.0011	2.77	
100 year		0.62	<b>h11</b>	0.478	<b>C</b>	25	0.0005	0.93	
<b>100 Year Total</b>	<b>9.3</b>								<b>9.3</b>

- 2-Year flow is controlled by orifice A
- 5-Year flow is controlled by orifice A + B
- 10-Year flow is controlled by orifice A + B
- 25-Year flow is controlled by orifice A + B + C
- 100-Year flow is controlled by orifice A + B + C

E.G. Flow for 25-year is the combined flow through orifice A, B, and C calculated using the head above each h6, h7, and h8 respectively.



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**5023-002/03** 5023-002/03  
**DATE:** 26/07/2024

Event	Stage (m)	Width (m)	Length (m)	Area (m <sup>2</sup> )	Total Storage (m <sup>3</sup> )	Target Storage (m <sup>3</sup> )
2-Year Storage	0.570	3.00	4.00	12.00	<b>6.84</b>	6.77
5-Year Storage	0.710	3.00	4.00	12.00	<b>8.52</b>	9.03
10-year Storage	0.890	3.00	4.00	12.00	<b>10.68</b>	10.55
25-Year Storage	1.045	3.00	4.00	12.00	<b>12.54</b>	12.43
100-Year Storage	1.380	3.00	4.00	12.00	<b>16.56</b>	15.21

Stage is head on orifice minus elevation difference between outlet and water elevation in the tank.

Permit to Practice No. 1000201



2024-07-26

# ATTACHMENT 8 - Septic Evaluation

Ron McMurtrie and Associates, Consulting Engineers

Wastewater System Specialists

Comox/Hornby Island, BC 250-335-2685

[jasbreez@island.net](mailto:jasbreez@island.net)

July 12, 2024

Hornby Island Co-op  
5785 Central Road  
Hornby Island, BC  
V0R 1Z0

Attention: Mr. Jake Berman, Manager

**RE: ON-SITE WASTEWATER SYSTEM EVALUATION AND UPGRADES – PROPOSED NEW CO-OP BUILDING**

**LEGAL DESCRIPTION: LOT 1, SECTIONS 6 AND 10, HORNBY ISLAND, NANAIMO DISTRICT, PLAN VIP79310**

**OUR FILE: 1080**

Dear Sir:

We have reviewed the proposed plans and use and occupancy for the new Hornby Island Co-op building. Additionally, we have revisited present and potential future use and occupancy for the adjacent Ringside Market area and the Gas Bar. Our review and evaluation consisted of the following:

1. Monitoring of flow data and wastewater sampling from the existing wastewater treatment system to provide a baseline for future flows and wastewater strength.
2. Evaluation of a new Daily Design Flow (DDF) in accordance with the BC Sewerage System Regulation (SSR) based on monitored flows and published commercial flow rates in the BC Standard Practice Manual (SPM-V3) and other wastewater reference texts.
3. Evaluation of the nature and strength of the wastewater based on a commercial occupancy including the inclusion of a new food services/restaurant component and public washrooms for the new Co-op building.
4. Review of the existing tanks, collection system, wastewater treatment system and dispersal field (Island Health Filing No. CV07-172).
5. Evaluation of the existing system capacity and required up-grade requirements to accommodate the proposed Co-op building.
6. Specification of new tanks and collection system, upgrades to the existing treatment system and evaluation of the existing dispersal field capacity to receive and safely treat the effluent from the proposed upgraded system based on the proposed future occupancy.

The proposed Daily Design Flow for the new building combined with the existing facilities is DDF = 12,000 litres per day (lpd) (the existing system was filed for a DDF = 7,320 lpd). Wastewater characteristic is defined as primarily blackwater (toilets for staff and the public) plus high-strength commercial (restaurants, café and kitchen food processing facilities). Estimated wastewater strength (composite organic loading) is 400 mg/l BOD<sub>5</sub> (5-day Biochemical Oxygen Demand) after primary treatment. Proposed effluent quality after advanced secondary treatment and prior to discharge to the dispersal field is 20mg/l BOD<sub>5</sub> and 20mg/l TSS (Total Suspended Solids). This exceeds Type 2 treatment levels as defined in the SSR of 45mg/l BOD<sub>5</sub> and TSS.

Upgrades to the system based on the proposed DDF and wastewater strength have been designed in accordance and with reference to the following documents and standards: The BC Standard Practice

1

Hornby Island Co-op: Proposed Building

Manual (SPM-V3); Engineers and Geoscientists of British Columbia, E.G.B.C. Professional Practice Guidelines, On-site Sewerage Systems and; Orenco Systems Inc, AdvanTex Commercial Treatment Systems – Design Criteria.

Upgrades to the system include the following:

- A. New Greywater (restaurant and kitchen solids/grease interception) tanks: 2 @ 11,400 litres plus 1 @ 3,400 litres. Total 4.6 days hydraulic retention time (HRT) combined with existing tankage.
- B. New Primary tanks: 3 @ 11,400 litres. Total 4.2 days HRT combined with existing tankage.
- C. New Treatment System Capacity: Addition of new AdvanTex filters, 4 – AX20 units for a total of 8 – AX20 units. Hydraulic capacity at peak daily flow is 30,000 lpd. Maximum influent BOD<sub>5</sub> at peak daily flow is 485 mg/l.
- D. The existing dispersal field is adequately sized to accommodate the proposed DDF = 12,000 lpd. This is based on a custom Hydraulic Loading Rate (HLR) of 85 litres/day/sq.m. and an Organic Loading Rate of 0.0017 kg BOD<sub>5</sub>/day/sq.m.

Proposed upgrades to the collection system (sanitary, greywater and effluent piping), tanks and the AdvanTex treatment system are shown on the Civil Engineering site servicing plan prepared by Herold Engineering Limited. The Herold drawings will be submitted attached to the Islands Trust application. Detailed design drawings and filing documents submitted to Island Health will be prepared later to meet the project schedule.

We trust the foregoing meets your needs regarding sewerage system design and capacity evaluation for your Development Permit and Siting and Use Permit applications to Islands Trust for the proposed Hornby Island Co-op building project.

Please do not hesitate to contact the undersigned if you require any further information.

Yours truly,



Ron McMurtrie, P.Eng.  
E.G.B.C. Permit to Practice No. 1002218



ATTACHMENT 9

# CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

HORNBY ISLAND CO-OP, 5875 CENTRAL ROAD, HORNBY ISLAND, BC



July 22<sup>nd</sup>, 2024

***Prepared for:***

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## 1 INTRODUCTION

This Construction Environmental Management Plan (CEMP) was prepared by Current Environmental Ltd. (CEL) on behalf of the preconstruction team for the Hornby Co-op project (the Project) – a new Co-op grocery store and associated offices and facilities (1<sup>st</sup> phase); the project also includes the demolition of the current Co-op grocery store and subsequent landscaping. The project is located at 5875 Central Road on Hornby Island, BC and the primary contact is Scott Torry from AFC Construction – the Contractor for the project.

The purpose of this CEMP is to outline the specific environmental procedures and mitigation measures that will be followed by the construction team (i.e. the Contractor) during project construction. Environmental responsibility is a key objective of the project, and as such, the protection of natural features and the mitigation of environmental impacts will be of primary importance during implementation of this project.

This CEMP references the 2023 *Hornby Island Groundwater Sampling Program, 5875 Central Road, Hornby Island, BC*, carried out by Arcadis Canada Inc. for this project. Valued Ecosystem Components (VECs) and associated mitigation measures during construction were assessed and designed by Current Environmental Ltd.

### 1.1 OBJECTIVES

This CEMP is provided to ensure that construction-related risks to Valued Ecosystems Components (VECs) are minimized through appropriate management practices, communications, and operational protocols during construction, and to maintain compliance with federal and provincial regulations specific to environmental protection. The measures outlined in this document may be updated as required to adapt to prevailing conditions to ensure effective protection of environmental resources as the project proceeds.

In general, this CEMP is intended to:

1. Provide a contextual basis for risk management during construction. This includes outlining the proposed tasks to be completed, the sequence or phasing of construction, the scale of construction, and the location of VECs relative to proposed works.
2. Outline management practices to minimize construction related risk to VECs.
3. Outline a construction monitoring and communication plan to ensure acceptable implementation of this CEMP and to ensure appropriate protocols are followed in response to incurred impacts (e.g., spills, sediment issues, etc.).

### 1.2 PROJECT LOCATION

The subject property is a developed lot located at 5875 Central Road on Hornby Island, BC (PID: 026-371-791), bearing the legal description Lot 1, Sections 6 and 10, Hornby Island, Nanaimo, District Plan VIP79310. This property is approximately 0.37 Ha in size and gently slopes in a southeast direction (Figure 1). Tribune Bay Provincial Park and adjacent mature forested areas are located in close proximity to the project site (Figure 2).



Figure 1. Overview map showing the subject site at 5875 Central Road, ditches and streams adjacent to the property, and surrounding lands.





Figure 2. Broader view of the project area. Showing the location of Tribune Bay Provincial Park and natural watercourses. Project location is indicated by the red rectangle. Bald Eagle nest is indicated by the orange star.

### 1.3 DESCRIPTION OF WORKS

The proposed development of the site includes building a new Co-op grocery store on the footprint of the existing parking lot, immediately south of the current Co-op grocery store building. Outdoor seating areas are located to the east of the new building and a landscaped play area will be constructed to the north of the new building, in the footprint of the current Co-op grocery store (Figure 2). The current Co-op grocery store will remain open and active until the new building is operable, at which point the older building will be demolished to make way for the landscaping, play area and accessible/elder parking areas and loading bays. The new building will be connected to the current wastewater treatment system also designed to re-introduce treated water to ground, which is located north of the property, across Shields Road, west of the Co-op gas station (Figure 3). The site will be accessed during construction of the new building by a driveway from Shields Road and from another access off of Central Road. The adjacent Ringside Market buildings and associated landscaping to the west of the Co-op will remain untouched. Parking, with the exception of accessible and elderly spots located along Shields Road, will be located in the gravel lot of the Co-op gas station north of the site, across Shields Road.

The laydown area will likely be located in the Co-op Gas Station parking lot, located north of the site, across Shields Road. The parking lot is a gravel surfaced lot, bounded on the north by Tribune Bay Provincial Park and an Agricultural Land Reserve

designated lot owned by BC Parks to the east. These two areas have been mapped by the Islands Trust and classified as Sensitive Ecosystem: Wetland, secondary habitat<sup>1</sup>. Although the parking lot area is already cleared and gravelled, care must be taken to not site hazardous materials (paint, fuel, soil piles etc.) near the boundaries of the parking lot laydown site to prevent impacts to the neighbouring sensitive habitats.

#### 1.4 KNOWN CONTAMINATED SITE

The site is a provincially registered Contaminated Site # 12558 (iMapBC, Environmental Remediation Sites). It historically hosted a gas bar, and various remediation and groundwater sampling programs have taken place to assess, remediate and monitor contamination in soil and groundwater over the years. According to the report titled “2023 Hornby Island Groundwater Sampling Program, 5875 Central Road, Hornby Island, BC”, produced by Arcadis Canada Inc., September 2023, during decommissioning of site facilities in 2011, leakage from supply lines and a hole in the underground petroleum storage tank (UST) were observed to have resulted in contamination in the subsoils and groundwater on the property. At least 3 excavations took place to remove contaminated soils, with **contaminated soils remaining in Excavation #3 where the former pump island and supply line trench were located**. Other soils were vertically and horizontally delineated and removed for disposal. Several groundwater monitoring wells remain onsite, with some located within the footprint of the new facilities that will need to be removed or decommissioned appropriately during construction, including well closure reports submitted to the province once complete. As such, it is assumed that works during the demolition and landscaping phases of the project are likely to encounter contaminated soils if excavations are undertaken in the location of the former pump island and distribution line locations, outside of the limits of Excavation 3 (Figure 4). Groundwater was also noted to exceed applicable standards in the vicinity of Well # 13-10, which is located in the Ringside Market area. Groundwater encountered in excavations during project works may require treatment or collection prior to disposal as the Arcadis report noted that groundwater is assumed to flow to the southeast, towards the new Co-op building location, and should be sampled and analysed by an accredited laboratory prior to disposal.

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<sup>1</sup> <https://islandstrust.bc.ca/document/hornby-island-sensitive-ecosystem-mapping-2023/>

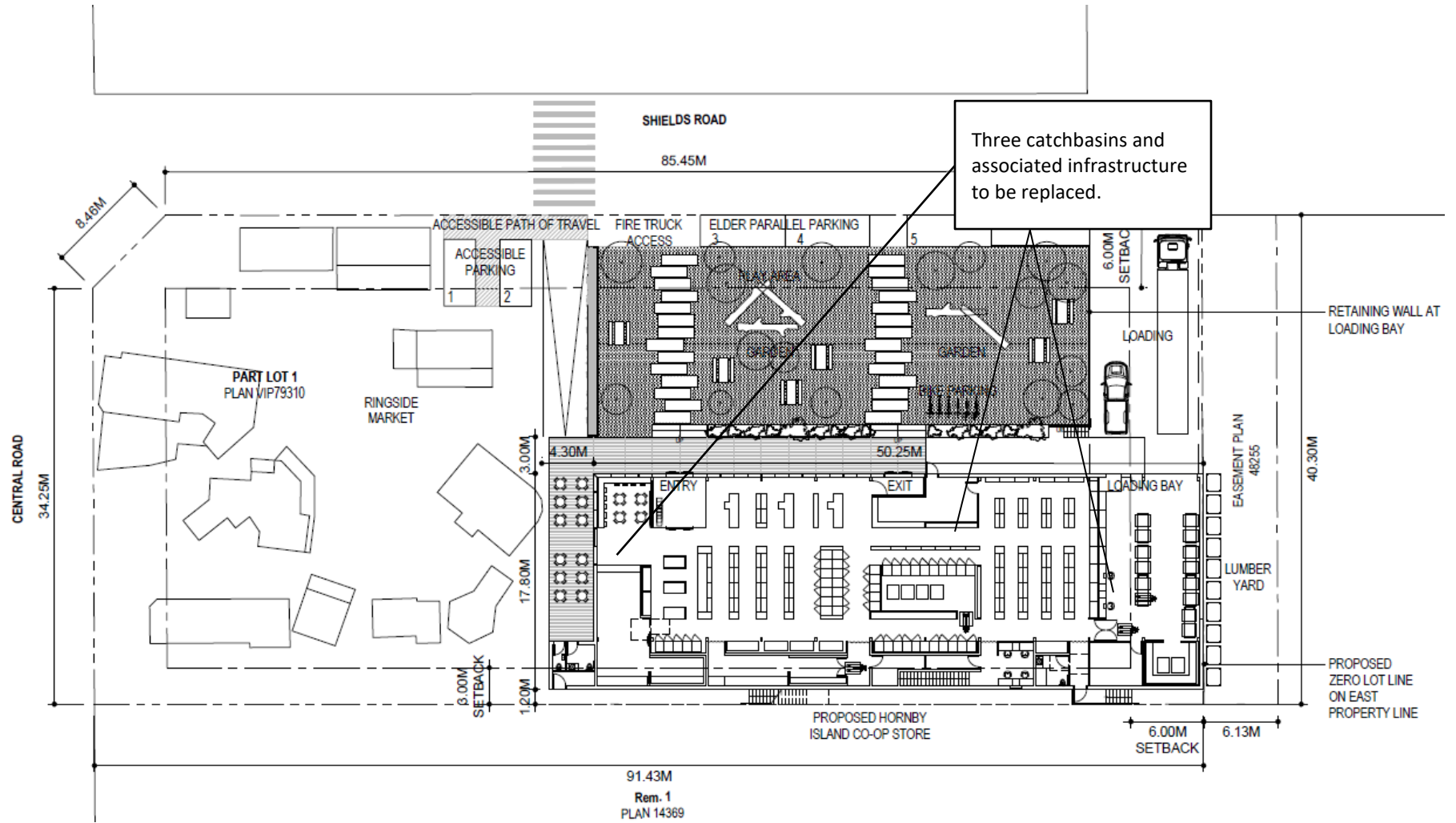


Figure 3. Proposed Site Plan. Source: Leckie Studio Architecture + Design



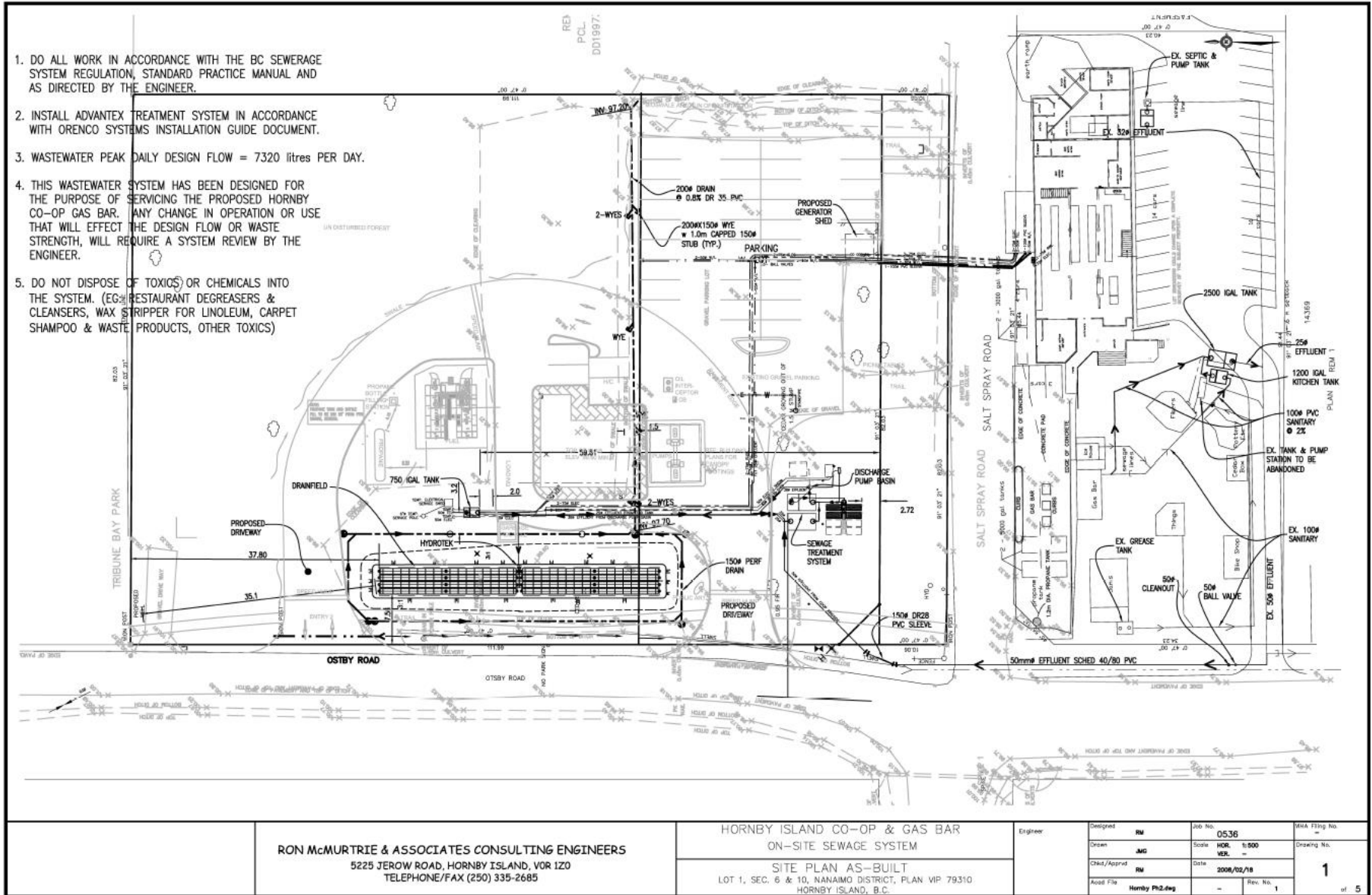


Figure 4. Clip from Ron McMurtrie & Associates Consulting Engineers, Hornby Island Co-op & Gas Bar On-Site Sewage System, 2008/02/18.



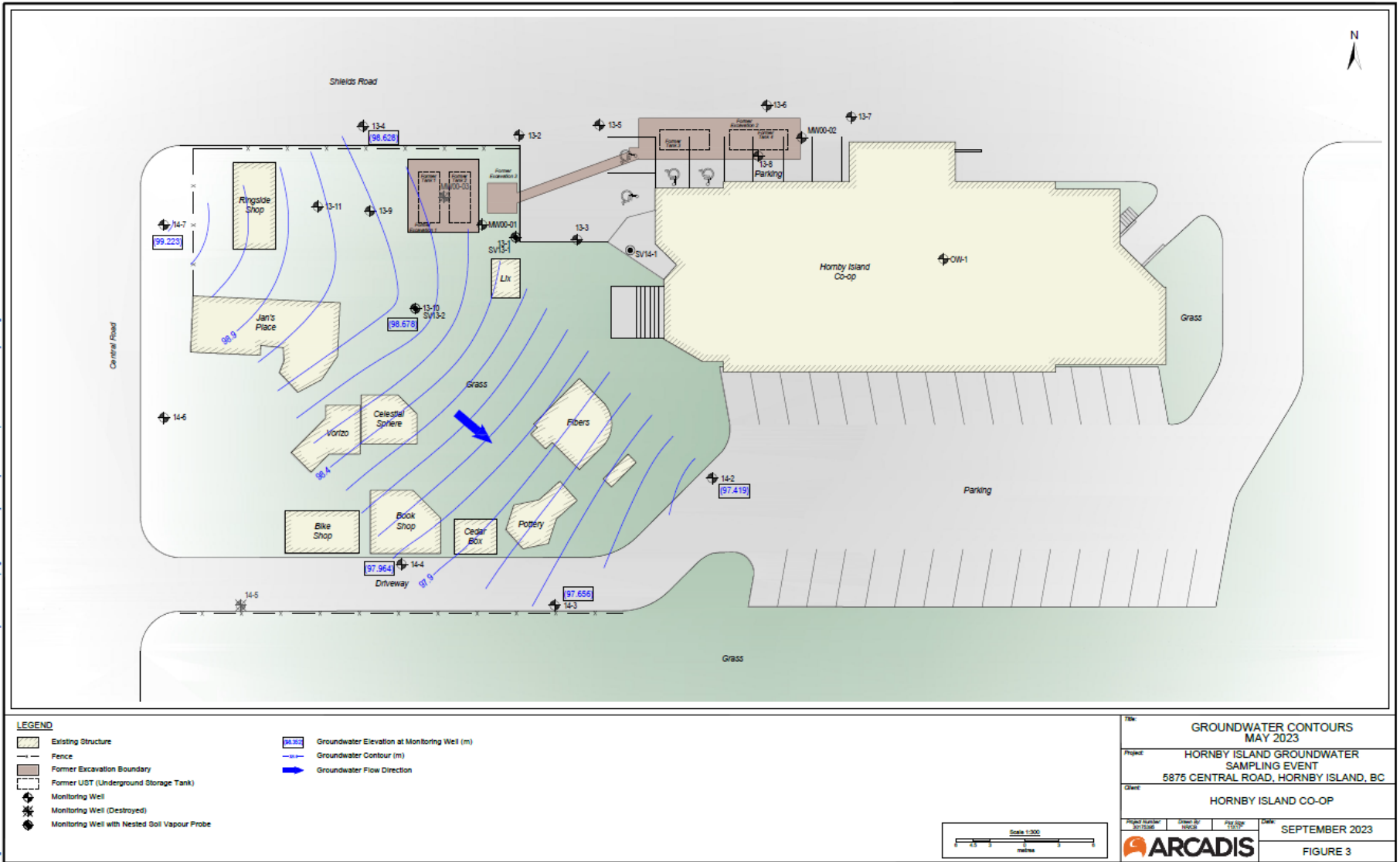


Figure 5. Clip from Arcadis Canada Inc. Report titled "Hornby Island Groundwater Sampling Event, 5875 Central Road, Hornby Island, BC" produced in September 2023 showing Excavation 3 location where contamination has not been delineated vertically or horizontally, monitoring well locations and groundwater flow direction.

## 2 METHODOLOGY

The following sections outline the methodology and resources used to identify the Valued Ecosystem Components (VECs) within the project footprint, and the guidance documents that were used to determine the appropriate mitigation measures and Best Management Practices prescribed in this CEMP. Valued Ecosystem Component (VEC) is a term that was adapted from the *BC Environmental Assessment Act (2023)* and the *Canadian Environmental Assessment Act (2012)* and is defined as *an element of the environment that has scientific, economic, social, or cultural significance*. For the purposes of this CEMP, VEC's contemplated herein are generally limited to environmentally significant elements of the local landscape that are critical to long term ecological health and function of the area.

### 2.1 BACKGROUND REVIEW

Background information on project works and VECs were obtained from the final site plan drawings for this project, particularly the Schematic Design Meeting 07 Drawings issued by Leckie Studio Architecture + Design (April 2024), and the report titled "Hornby Island Groundwater Sampling Program, 5875 Central Road, Hornby Island, BC (September 2023)" by Arcadis Canada Inc.. Additionally, the following resources provided guidance on mitigation measures and Best Management Practices applicable to this project.

1. *Develop with Care – Environmental Guidelines for Urban and Rural Land Development in British Columbia* (Province of BC, 2014).
2. *Measures to Protect Fish and Fish Habitat* (DFO, 2019).
3. *Fisheries Inventory Data Queries (FIDQ)* (Province of BC, 2024).
4. *BC Conservation Data Centre iMap* (Province of BC, 2021).
5. *Islands Trust iMap* (Islands Trust, 2024).
6. *iMapBC* (Province of BC, 2024).
7. *Wildlife Tree Stewardship Atlas (WiTS)* (Community Mapping Network, 2018).
8. *The Great Blue Heron Atlas* (Community Mapping Network, 2018).
9. The experience of the project team.

#### 2.1.1 Raptor Use and Species and Ecosystems at Risk

An office-based assessment of Species at Risk occurrences within or near the project footprint was completed using the CDC BC Species and Ecosystems Explorer<sup>2</sup>, the Federal Species at Risk Public Registry<sup>3</sup>, the Wildlife Tree Stewardship Atlas<sup>4</sup> and the Great Blue Heron Atlas<sup>5</sup>. The on-site assessment of Species at Risk was completed concurrent with the other inventory efforts mentioned above and was based primarily on methods outlined in *Develop with Care – Environmental Guidelines for Urban and Rural Land Development in British Columbia*.

### 2.2 FIELD ASSESSMENTS

<sup>2</sup> BC Ministry of Environment. (2024). CDC iMap and Ecosystems Explorer. <<http://maps.gov.bc.ca/ess/hm/cdc/>>

<sup>3</sup> Government of Canada. (2024). Species at Risk Public Registry. <<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>>

<sup>4</sup> Community Mapping Network. (2024). Wildlife Tree Stewardship Atlas (WiTS). <<https://cmnmaps.ca/wits/>>

<sup>5</sup> Community Mapping Network. (2024). Great Blue Heron Atlas. <<https://cmnmaps.ca/GBHE/>>

A site visit was conducted by a field technologist from Current Environmental Ltd. in June 2024 with a focus on familiarizing Current Environmental staff with the site and phased plans of construction, ground-truthing adjacent ditch watercourses and confirming the nearby eagle nest location. The following sections provide additional details on specific inventory methods.

### 2.2.1 Aquatic Habitat

Methodologies employed for the classification and delineation of watercourses and wetlands were based primarily on standards adapted from the *BC Riparian Areas Protection Regulation* (2019), *Wetlands of British Columbia – A Guide to Identification*<sup>6</sup> (MacKenzie, 2004), *The Canadian Wetland Classification System* (Warner, 1997), *Indicator Plants of Coastal British Columbia* (Klinka 1989), and the *Resources Inventory Committee of British Columbia Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Standards and Procedures Version 1.1* (March 1999).

### 2.2.2 Terrestrial Habitat

Survey methods for terrestrial elements or VECs were directed in part by those outlined in *Develop with Care – Environmental Guidelines for Urban and Rural Land Development in British Columbia*<sup>7</sup> and the *Field Manual for Describing Terrestrial Ecosystems*<sup>8</sup>. Vegetation in the project footprint was identified with the assistance of *Plants of Coastal British Columbia*<sup>9</sup> and *E-Flora BC: Electronic Atlas of the Flora of BC*.<sup>10</sup>

## 3 VALUED ECOSYSTEM COMPONENTS AND KEY ENVIRONMENTAL CONCERNS

Table 1 summarizes the primary Valued Ecosystem Components (VECs) located within proximity to the project. The primary potential construction related impacts to VECs related to the project works are as follows:

1. Mechanical destruction of wildlife (bird nests, amphibians, fish, other smaller wildlife).
2. Soil disturbance (compaction, loss of structure).
3. Encroachment into sensitive areas and unnecessary loss of trees and vegetation (including their root systems).
4. Spread, or introduction of invasive species.
5. Sediment release to aquatic habitats (streams and wetlands).
6. Spills and release of other hazardous or deleterious substances to the environment – particularly aquatic habitats.

<sup>6</sup> *Wetlands of British Columbia – A Guide to Identification* employs a site unit classification model of a Wetland and Riparian Ecosystem Classification system (WREC) and is based on the Canadian Wetland Classification System (CWCS) (Warner and Rubec 1997).

<sup>7</sup> BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development. (2014). *Develop With Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*. <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/best-management-practices/develop-with-care>.



<sup>8</sup> BC Ministry of Environment. (2010). *Field Manual for Describing Terrestrial Ecosystems, 2nd Edition*. <[https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/conservation-data-centre/field\\_manual\\_describing\\_terrestrial\\_ecosystems\\_2nd.pdf](https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/conservation-data-centre/field_manual_describing_terrestrial_ecosystems_2nd.pdf)>

<sup>9</sup> Pojar, J. and A. MacKinnon. (1994). *Plants of Coastal British Columbia (Revised, 2004)*. Lone Pine Publishing.

<sup>10</sup> University of British Columbia. (2024). *E-Flora BC: Electronic Atlas of the Flora of BC*.

<<https://ibis.geog.ubc.ca/biodiversity/eflora/index.shtml>>

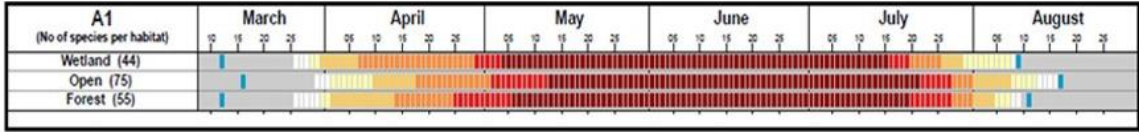

Table 1. Summary of Valued Ecosystem Components near the project.

Valued Ecosystem Component	Description
<p><b>Aquatic Habitat</b></p>	<ul style="list-style-type: none"> <li>The aquatic habitat features near the property include two stream tributaries to the mainstem of <b>Beulah Creek</b> (ditch-type channels that run along the east and west side of Central Road to the west to Beulah Creek – see Figure 1), and two ditches that run ~ 490 m east to the marine waters of Tribune Bay on the north and south sides of Shields Road.</li> <li><b>Beulah Creek</b>, located approximately 160m south of the site is a known fish bearing creek<sup>11</sup> that supports populations of cutthroat trout. Anecdotal information also indicates local school programs release coho fry into the stream. The provincial Fish Inventories Data Queries (FIDQ) database does not provide any information on fish distribution. A regional database (Comox Valley Regional District iMap<sup>12</sup>) indicates that Beulah Creek may support cutthroat trout, coho salmon and chum salmon.</li> <li>All of the <b>ditch tributaries</b> to Beulah Creek west of the subject property are seasonal, and dry in the summer months. These ditch tributaries are unlikely to have fish presence due to the seasonality and ditch-like habitat; however, they do flow into potential fish habitat in Beulah Creek in the wetter months.</li> </ul>
<p><b>Terrestrial Habitat</b></p>	<ul style="list-style-type: none"> <li>The subject property is situated within the northern extent of the Coastal Douglas-fir Moist Maritime Subzone (CDFmm), an increasingly rare and disturbed biogeoclimatic zone.</li> <li>Various ornamental species of plants are located around the perimeter of the current Co-Op building, with one landscaped area slated for removal located approximately mid-property, west of the current parking area (Photo 1). These areas may support birds, herptiles and small mammal species.</li> <li>The south and east edges of the site are populated by several young and mature cedars and Douglas fir trees (Photo 2), with sedge species, trailing blackberry, willow species, black twinberry and various grass species.</li> </ul> <div style="display: flex; justify-content: space-around;">   </div> <p>Photo 1. Landscaped area west of the parking lot.      Photo 2. Trees adjacent to the new building footprint.</p> <ul style="list-style-type: none"> <li>These landscaped and natural areas on and adjacent to the site provides habitat for birds, large and small mammals, terrestrial amphibians and migrating aquatic breeding amphibians. These areas are</li> </ul>

<sup>11</sup> Fish presence information for Beulah Creek is limited to anecdotal information; CEL Technicians have observed coho fry in the system and BC WLRS staff have reported cutthroat trout in Beulah Creek observed during electroshocking activities in the spring of 2024.

<sup>12</sup> <https://mapviewer.imaptoo.ca/secure/>



Valued Ecosystem Component	Description
	<p>particularly attractive to migratory birds. The migratory bird <b>nesting window</b> for Zone A1 – Northern Pacific Rainforest is approximately <b>March 15<sup>th</sup> to August 15<sup>th</sup></b> (Figure 3).</p>  <p style="text-align: center;">Figure 6. Migratory bird nesting chart for Zone A1.</p>
<p><b>Raptor Use and Species and Ecosystems at Risk</b></p>	<ul style="list-style-type: none"> <li>• The CDC iMap has two records of ecosystems at risk that are nearby the subject property: CDC Occurrence 55781 – <b>Douglas fir-dull Oregon grape community</b> (northwest and east of the site) and CDC Occurrence 107873 – <b>Grand fir-dull Oregon grape community</b> (northwest of the site). Both of these ecosystems are classified as red-listed in BC. These ecosystems are both located at least 200m from the site. As the majority of the proposed development will be located within the previous cleared/paved and developed areas on the property, none fall within these ecosystem classifications. See CDC Known Occurrence map in Appendix A.</li> <li>• There are no recorded occurrences of species or ecosystems at risk <u>on</u> the subject property.</li> <li>• There is one bald eagle nest located approximately 180m west-northwest of the site; CEL confirmed this nest as “active” while onsite. This nest tree likely corresponds to the Wildlife Tree Stewardship Atlas (WiTS) nest BAEA-106-524, however, the nest was found to be closer to the site than it appears on the WiTS mapping. For the nest report, See Appendix B.</li> </ul>  <p>Photo 3. Eagle nest identified near site.</p>

Valued Ecosystem Component	Description
	<ul style="list-style-type: none"> <li>There are no recorded occurrences of great blue heron colonies located on or within 200m of the subject property. None were observed during field assessment efforts as well.</li> </ul>
<p><b>Provincial Park</b></p>	<ul style="list-style-type: none"> <li>Though it is unlikely to be impacted by the Project, Tribune Bay Provincial Park (70.28 ha) and a large 2<sup>nd</sup> growth forested area (6.17 ha) are located across Shields Road from the project location (Figure 2).</li> <li>The park supports numerous species and sensitive habitats, including wetland areas, streams, and mature 2<sup>nd</sup> growth forest.</li> <li>Care must be taken during all phases of the Project to ensure the potential for impacts to the park are minimized. In particular, the release of sediment or hazardous substances and materials are minimized.</li> </ul>

#### 4 ENVIRONMENTAL MANAGEMENT ROLES AND RESPONSIBILITIES

The following sections describe the roles and responsibilities of the Contractor and the Environmental Monitor during construction of the Project.

##### 4.1 CONTRACTOR – AFC CONSTRUCTION

The Contractor is responsible for all activities related to the works and to ensure that, in consultation with the Project Manager, applicable permits, licenses, or related authorizations are in place for activities that will or could affect the environment. The Contractor assumes all reasonable and necessary measures to ensure that any activities undertaken in the performance of the work are conducted in such a way as to minimize any impacts to VECs summarized in Section 3. If any unanticipated impacts to the environment occur that do not have applicable regulatory approval, the Contractor will mitigate and restore the impacted areas as deemed appropriate by the Project Manager and applicable regulatory agencies. The Contractor will keep a copy of the CEMP and all related permits, licenses and approvals, on site at all times.

Throughout the execution of the work, the Contractor is responsible for ensuring:

1. Compliance with the Contract documents and/or related work instructions;
2. Compliance with all applicable regulatory requirements, including federal and provincial laws and any applicable local bylaws or related requirements;
3. Implementation of the environmental measures outlined in this CEMP;
4. Supplying all of the materials needed to properly implement the mitigation measures outlined in this CEMP (i.e. silt fencing, trash pumps, spill kits, sandbags, poly sheeting, etc.);
5. Review and signing off a Project Environmental Orientation Record which will be provided by the Environmental Monitor (EM) prior to construction; and
6. Coordination and discussion of the work plan with the EM on site to ensure that all mitigation measures are installed and working properly, and compliance with the EM should there be any shut down days during heavy rainfall events.

##### 4.2 ENVIRONMENTAL MONITOR (EM) – CURRENT ENVIRONMENTAL LTD.

Current Environmental Ltd. will act as the EM for the Project. The EM will be on site during all critical construction times to oversee the work and ensure the Contractor’s compliance with the CEMP and all applicable regulatory requirements. The EM has the authority to order the Contractor to modify and/or halt any work activity if deemed necessary for the protection of the environment and observance of statutory requirements. During construction, appropriate meetings involving the crew

and the EM will be held as required to ensure that environmental risks are addressed and mitigated in a proactive manner. Instances of non-conformance and environmental incidents and near misses will be brought to the attention of the Project Manager.

Specifically, the EM is responsible for:

1. Updating the CEMP as necessary;
2. Reviewing the CEMP with the Contractor and recording the review on the Project Environmental Orientation Record at the project start up meeting (EM will supply this form during the review process);
3. In response to emergency incidents (spills, sediment releases to aquatic habitats, etc.);
4. To complete appropriate sampling and characterization of encountered contaminated soils;
5. Full time monitoring during any excavation or de-watering that occurs within any wetted drainage channels along the access road;
6. Completing incident reports as needed to be distributed to all Project proponents;
7. Identifying the requirement for and implementing specialty services (i.e., nesting bird surveys, amphibian salvage, etc.);
8. Directing the Contractor and the Contractor's site supervisors on the implementation of various mitigation measures required throughout construction and ensuring the proper implementation of these mitigation measures; and
9. Halting work if a major non-conformance occurs or an unforeseen environmental sensitivity is discovered.

#### 4.2.1 Frequency of EM Onsite Presence

To summarize the above section, EM site inspections are anticipated during the following instances:

1. Project startup/kick off.
2. Environmental incident response.
3. Excavation or work within any wetted channels.

#### 4.2.2 Environmental Reporting

Environmental incident reports are to be submitted to the Contractor and Project Manager after any environmental incident (spills, sediment release, death or harm to wildlife, encroachment, etc.).

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## 5 ENVIRONMENTAL COMMUNICATIONS

Environmental communication involves a number of documents and activities, including the following:

1. **Construction Environmental Management Plan (CEMP):** The CEMP, this document, details the roles, responsibilities and expectations regarding the activities associated with the works. The CEMP should be printed and kept on site at all times during construction.
2. **Project Environmental Orientation Record (PEOR):** All Contractors and staff must complete an environmental orientation provided by the EM at project startup. All Supervisors and crew members will sign the Project Environmental Orientation Record (PEOR) provided by the EM to acknowledge that they have reviewed and understood the environmental requirements of the project.
3. **Environmental Incident Reporting:** An environmental incident is one that has caused an impact to the environment and an environmental near miss is an incident that had the potential to cause an impact to the environment. The

Contractor must report environmental incidents to the EM immediately so they may assist with the necessary clean up or action items. The EM is responsible for completing environmental incident reports for incidents or near misses within 24 hours of an incident occurring. Environmental incident reports will be signed by the Contractor and distributed to Project Proponents. For contraventions under the Fisheries Act, Water Sustainability Act (WSA), Environmental Management Act, and any other relevant Acts, the EM must report to Environmental Agencies (e.g. Fisheries and Oceans Canada, Ministry of Environment, Ministry of Forest, Lands, Natural Resource Operations and Rural Development (FLNRORD), etc.) as applicable, as well as the Ministry Representative. An example Environmental Incident Report form is provided in Appendix D.

## 5.1 CONTACT LIST

The following table (Table 2) provides the key project contacts for this project. This table will be updated as needed.

**Table 2. Project contact list**

Name	Position	Company	Phone Number	Email
Jake Berman	Owners Representative	Hornby Island Co-op Association		Jake.berman@hornbycoop.com
Igor Oleshko	Project Coordinator	AFC Construction	Cell: 250-897-1789	igor@afconstruction.com
Scott Torry	Construction Manager	AFC Construction	Cell: 778-731-2001	scott@afconstruction.com
Warren Fleenor	Project Biologist and support for EM	Current Environmental Ltd.	Office: 250-871-1944 Cell: 250-703-3355	wfleenor@currentenv.ca
EM from CEL TBD	Environmental Monitor	Current Environmental Ltd.	Office: 250-871-1944	
Site Supervisor TBD	Contractor TBD	TBD		
Claire Kennedy	Landscape	Claire Kennedy		Clairekennedy.design@gmail.com
Ron McMurtrie	Septic	Ron McMurtrie		jasbreez@island.net

## 6 MITIGATION REQUIREMENTS

The following table (Table 3) outlines the mitigation measures that the Contractor must implement during project construction.



**Table 3. Mitigation requirements during construction**

<b>6.1 GENERAL MEASURES</b>
<ol style="list-style-type: none"><li>1) All Contractors must address and implement the provisions outlined in this CEMP.</li><li>2) An Environmental Monitor will complete site inspections and communications as needed to ensure proper implementation of this CEMP (Section 4).</li><li>3) All activities must comply with applicable laws and regulations, including local bylaws and related orders.</li><li>4) All permit and approval conditions, terms and requirements must be implemented.</li><li>5) All Contractors must review and sign the PEOR prior to starting work. The PEOR form will be provided by the EM at the pre-construction meeting, and a signed final version must be on site at all times which will include an up-to-date list of contact information.</li><li>6) Environmental issues must be a component of the regular tailgate meetings.</li><li>7) The Contractor must communicate the work schedule regularly with the EM so that pre-work activities (such as avian nest surveys, amphibian salvage, and other mitigation measures) can be completed in a timely manner.</li></ol>
<b>6.2 VEGETATION MANAGEMENT</b>
<ol style="list-style-type: none"><li>1) Vegetation removal involving soil disturbance will be suspended during periods of high rainfall (&gt;25 mm in 24 hours) if there is the possibility of sediment runoff into watercourses or wetlands.</li><li>2) Vegetation identified for protection (e.g., trees to be retained at the southern property boundary) will be left intact and undisturbed, including root systems where applicable.</li></ol>
<b>6.3 INVASIVE PLANT MANAGEMENT</b>
<ol style="list-style-type: none"><li>1) Prevent the spread of invasive plant species by thoroughly inspecting and cleaning equipment before bringing it onto the site. Remove all weeds and suspect plants and wash equipment and vehicles to prevent spread of invasive species.</li><li>2) Separate cleared material containing invasive species from other cleared material and perform disposal at an appropriate transfer facility (i.e., landfill).</li><li>3) Cover loads during transport to help prevent spores or seeds from falling out of the vehicle.</li><li>4) While equipment is on site, remove invasive plants that occur near work areas prior to disturbing these areas.</li><li>5) If working within an area of weed infestation, clothing, tools and equipment must be thoroughly cleaned before leaving the site.</li><li>6) Minimize soil disturbance and restore exposed soil as quickly as possible after disturbance by seeding with an appropriate seed mix (must be approved by the Landscape Architect team) or by applying a weed-free mulch.</li><li>7) Noxious weeds and invasive plants noted during Project activities will be identified and flagged by the EM.</li><li>8) All material imported onto the site must be weed-free.</li></ol>

#### 6.4 ENCROACHMENT

- 1) The Project footprint will be delineated prior to construction by the site surveyor, and will be verified by the EM, Engineer, and Contractor, including “tree protection” Zones.
- 2) No machinery access or spoil material storage shall occur outside of the Project footprint without the consent of the EM.
- 3) The Contractor will protect and preserve all native vegetation outside of the Project footprint. If native vegetation outside the footprint is disturbed it will be replaced following a Revegetation/Reclamation Plan.
- 4) Equipment storage and laydown areas will be located away from VECs or designed to minimize impact to VECs.

#### 6.5 WORK IN RIPARIAN ZONES

- 1) Work in riparian areas (i.e. the driveway entrances off Shields and Central Road / existing culverts will be timed during a period of dry weather when channels are seasonally dried up to minimize the chance of sediment release into Beulah Creek or the marine waters of Tribune Bay.
- 2) The EM will provide guidance on the implementation of specific sediment and erosion control measures.
- 3) Disturbance to existing vegetation around stream tributaries and ditches identified for retention will be minimized and disturbed areas replanted in accordance with a site-specific restoration plan as directed by the EM.
  - a. “Tying back” vegetation to facilitate works rather than removal of entire plants should be practised as much as possible to minimize disturbance where work is in proximity to the edge of the ditch areas.

#### 6.6 WILDLIFE HABITAT ALTERATION, DISTURBANCE, OR LOSS

- 1) All work must be completed in such a manner as to protect all species at risk and wildlife from harm.
- 2) Any wildlife deaths or other wildlife issues arising during construction must be immediately reported to the EM.
- 3) All wildlife attractants will be secured on the worksite. No food, food waste, cook stoves, garbage, drink containers (full or empty), recyclable materials will be left neither unattended nor accessible to wildlife.
- 4) As much as possible, maintain existing trees along the sites southern boundary.

#### 6.7 AVIAN MANAGEMENT

- 1) **Do not destroy, remove or clear any active bird nests.** Cease work immediately and contact the EM if bird nests (active or inactive) are encountered within or near the work area. As per the BC Wildlife Act:

##### Birds, nests and eggs

- 34 A person commits an offence if the person, except as provided by regulation, possesses, takes, injures, molests or destroys
- (a) a bird or its egg,
  - (b) the nest of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl, or
  - (c) the nest of a bird not referred to in paragraph (b) when the nest is occupied by a bird or its egg.

- 2) Should any vegetation (including grasses) trimming, or removal be required between **March 15<sup>th</sup> and August 15<sup>th</sup>, a bird nest assessment must be undertaken no earlier than five days prior to the required clearing.** A nest search protocol must be developed and coordinated with the EM in advance.
  - a. Note that nest assessments are valid for 5 days; should work not be completed within an assessed area, a subsequent assessment must be completed prior to construction.
- 3) Any active nests encountered shall be protected with a no-disturbance buffer flagged by the EM. Buffer distance will be determined based on species and according to relevant BMPs. The buffer zone will be maintained until the nest is no longer in use. Details of each nest, including photos and locational information, will be recorded by the EM.
- 4) Any sightings of bald eagles, other raptors, or great blue heron nests must be immediately reported to the EM.

## 6.8 WATER QUALITY MONITORING

- 1) Construction activities will be managed to ensure compliance with Sections 32, 35 and 36 of the *Fisheries Act*. Contractors should also reference the *Standards and Best Practices for Instream Works* (BC Ministry of Water, Land and Air Protection, 2004) where applicable. Water quality monitoring will be performed by the EM on an as needed basis and will focus on monitoring sediment generation and release to adjacent and/or downstream watercourses (i.e. Beulah Creek).
- 2) It is not anticipated that water quality measurements will be needed as part of this work, however, water samples may be tested onsite for turbidity with handheld meters as needed. Water quality monitoring will be done as determined by the EM on the basis of visual monitoring of water clarity, with measurements taken if there is any sediment laden water running off in the direction of Beulah Creek. Water quality monitoring sites will be established both upstream (for background) and at least 2 locations downstream of the project site.
- 3) As a guideline, the BC Water Quality Guidelines (BC Ministry of Environment, 2001) for protection of aquatic life stipulates an acceptable increase of 8 NTU when background levels are between 8 and 80 NTU, and a 10% increase when background levels exceed 80 NTU. In the event the established limit is exceeded, the Contractor will need to stop work and/or set up additional sediment and erosion control measures until the turbidity levels decrease.

## 6.9 SEDIMENT AND EROSION CONTROL

- 1) Erosion control measures that prevent sediment from entering any waterway, water body or wetland in the vicinity of the construction site are a critical element of the project and shall be implemented by the Contractor.
- 2) The implementation and maintenance of sediment control measures and related equipment and supplies are the responsibility of the Contractor and will be monitored by the EM. Regular inspection of sediment control measures during construction will ensure these are functioning and maintained as required.
- 3) the following measures should be implemented provided water meets **Aquatic Life and Drinking Water standards** as laid out in the Arcadis Groundwater Sampling Report:
  - a. Silt laden waters that may enter a watercourse can be pumped to well vegetated areas for filtration. Discharge hoses are to be placed so as not to cause erosion. This is usually accomplished by laying poly sheeting and using large rocks or wood to dissipate discharge flows.
  - b. Filter fabric dams, rock check dams, settling ponds, bypass pumping, geotextiles, French drains, interception ditches, mulch, grass seeding, and silt fencing should be used as needed on a site-specific basis to control erosion. Filtration should be accomplished using filter fabric keyed into substrates and banks and elevated using stakes. Silt fencing is not an acceptable mitigation technique to control erosion

in flowing ditches; however, it is useful for containing slumping areas and for use as baffles to slow water velocities.

- c. Excavation will be stopped during intense rainfall events or whenever surface erosion occurs affecting a watercourse. This will be done at the discretion of the EM. Erosion and sediment control measures should be inspected within 24 hours after intense rainfall events.
- d. Runoff and stormwater are to be managed and directed away from areas of exposed soils.
- e. Do not dump excavated fill, waste material or debris in waterways.
- f. Wherever possible, soil stockpiles will be placed a minimum of 30 m from any watercourse/ditch and in a location where erosion back into the watercourse cannot occur and will not impede any drainage.
- g. Soil stockpiles with the potential to erode into watercourses are to be covered with poly sheeting. Other techniques, such as terracing, or surface roughening can greatly reduce surface erosion on steeper slopes.

## 6.10 FUELS AND HAZARDOUS MATERIALS

- 1) The accidental release of petroleum, oils, hydraulic fluids, lubricants, concrete additives, anti-freeze or other hazardous materials onto land surfaces or into waterbodies may result in degradation of habitat quality and could be a threat to human health. As such, it must be actively prevented.
- 2) All equipment used on site must be free of deleterious material (e.g. hydrocarbons) and in good mechanical condition (no fuel or hydraulic leaks).
- 3) The Contractor must follow the Spill Response Plan provided in Appendix C of this CEMP. The Spill Response Plan must be reviewed by the Contractor and all of the work crews as part of the tailgate meetings prior to the commencement of work, and it must be re-enforced regularly as the crew moves on to different components of the project.
- 4) All identified spills will be cleaned up immediately, and contaminated soils and vegetation will be removed for appropriate disposal. Notify the EM if any hydrocarbon sheen or odour is detected during construction.
- 5) A large spill kit will be on hand at all times during construction. Smaller spill kits are to be maintained on all machinery. Spill response supplies must be capable of dealing with 110% of the largest potential spill and shall be maintained in good working order.
- 6) Refueling of equipment and maintenance of equipment with the potential for accidental spills (i.e., oil changes, lubrications) is to occur only at designated fueling stations and located at least 30 m from all watercourses. Tarps should be laid down prior commencement of work to facilitate clean up.
- 7) All fuel, chemicals, and hazardous materials will be clearly marked and stored a minimum of 30 m from any waterbody.
- 8) Pumps, jerry cans, generators, etc. are to be placed on containment basins that can hold 110% of the largest possible fuel spill from that device.
- 9) Used oil, filters, and grease cartridge lubrication containers, and other products of equipment maintenance will be collected and kept in a secure receptacle for later disposal.

## 6.11 CONCRETE MANAGEMENT

- 1) Prior to the start of concrete work, the EM will explain to potential for damage to aquatic species and habitats associated with concrete work and any required mitigation measures to all personnel.
- 2) Concrete works will be conducted in a manner that ensures sediments, debris, concrete, concrete fines and wash water are not deposited into any aquatic habitats.
- 3) All concrete trucks shall have a self-contained wash system and leak-proof containment berms to ensure no concrete or wash water is deposited on roadways, in storm drains, or aquatic habitats.
- 4) No concrete is to be dumped on site except in designated concrete waste bins lined with poly sheeting.
- 5) The water treatment system must include a CO<sub>2</sub> pH adjustment system, settling tanks, and mechanical filtration to neutralize concrete contaminated water and remove slurry from any contaminated water that may be generated during concrete works.
- 6) In the event of a release into aquatic habitats, the EM will take pH and temperature readings of the affected area and include them in the Monitoring Reports. pH of water released to aquatic habitats must be within 6.5-9.0.

#### 6.12 GARBAGE AND WASTE

- 1) Work areas will be kept in a safe, clean, and sanitary condition. All waste, rubbish and debris will be kept in centralized locations within the project areas and removed from the project sites upon completion of each work phase.
- 2) Waste containers will be wildlife and wind proof containers to prevent dispersal.
- 3) Food waste will be stored in leak-proof storage containers or vehicles that will prevent access by wildlife.
- 4) Food and waste that may attract wildlife from the site will be removed daily.
- 5) All wastes originating from construction, trade, hazardous and domestic sources shall not be mixed, but will be kept separate and disposed of in accordance with applicable regulation(s).
- 6) Sanitary facilities, such as a portable container toilet, shall be provided by the Contractor and maintained in a clean condition. Facilities should be secured so as not to fall over and located at least 30 m from any waterbody.

#### 6.13 AIR QUALITY, DUST, AND NOISE MANAGEMENT

- 1) The use of chemical dust suppressants such as calcium lignosulphate, sodium lignosulphate, or magnesium chloride is prohibited.
- 2) Dust emissions will be managed by the Contractor and monitored by the EM and will be controlled as necessary by the application of water.
- 3) Speed limits must be obeyed to minimize dust.
- 4) Vehicle and equipment idling time will be restricted and minimized during construction.
- 5) Combustion engines will be maintained and inspected regularly.
- 6) Optimize truck loading to reduce trips.
- 7) Cover loads that may emit dust.

## 6.14 CONTAMINATED SOIL AND WATER

- 1) Soil in the area of Excavation 3 has not been delineated vertically or horizontally. As such, if excavation is to occur in this area, the EM or other environmental professional must be retained to characterize soils for disposal and to collect confirmation samples from the walls and floor of the excavation, as per BC Contaminated Sites Regulation (March 2023 update). [https://www.bclaws.gov.bc.ca/civix/document/id/crbc/crbc/375\\_96\\_multi](https://www.bclaws.gov.bc.ca/civix/document/id/crbc/crbc/375_96_multi) . If soil is deemed contaminated, it will remain onsite until it can be taken to an approved, licensed disposal facility.
- 2) If groundwater is encountered during the excavation phase, the EM or other environmental professional should be retained to characterize groundwater for disposal options. If the groundwater is deemed contaminated, it will be pumped into temporary containment until it can be taken to an approved licensed facility for disposal.
- 3) Groundwater monitoring wells in the project footprint will be properly decommissioned using bentonite chips to seal the well and well closure reports will be completed and submitted to the Ministry of Environment. Decommissioning forms can be found here: [www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-wells/well\\_decommission\\_form.pdf](http://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-wells/well_decommission_form.pdf) . Groundwater Protection Regulation requires these reports to be submitted within 90 days of alteration or decommissioning of a monitoring well.

## 7 REQUIRED EQUIPMENT AND SUPPLIES

The following is a required “minimum” supply list for environmental mitigation. The Contractor’s environmental budget must incorporate all of the items listed below and have contingency funds for additional supplies requested by the EM throughout the duration of the Project.

- 1) A centrally located large spill kit of appropriate capacity (i.e., capacity to handle 110% of the largest possible spill) should be onsite at all times.
- 2) Smaller spill kits should be kept on all equipment.
- 3) Trash pumps and/or submersible pumps for de-watering excavated areas – size and types to be determined once the water levels are observed during construction.
- 4) Drip trays sized to fit all jerry cans, pumps, generators, etc.
- 5) Plastic poly sheeting (6mm) to prevent scouring at end of pump discharge hoses and for covering exposed soils as needed.
- 6) Poly sandbags for building temporary coffer dams in the ditch and for re-directing runoff water as needed.
- 7) Rolls of silt fencing (mainly for delineating work areas and/or containing soil piles as needed).

## 8 CLOSURE/CONCLUSIONS

Environmental protection will be of utmost importance during the implementation of this project. The majority of works proposed for the Project pose medium to low risk to VECs if the mitigation measures prescribed herein are implemented in a diligent manner. As much detail as possible has been provided in this CEMP to inform all project personnel of the environmental requirements of the project, however all project personnel will need to be prepared to be flexible, communicative, and cooperative in order to ensure the success of this project and the effective protection of VECs during construction.

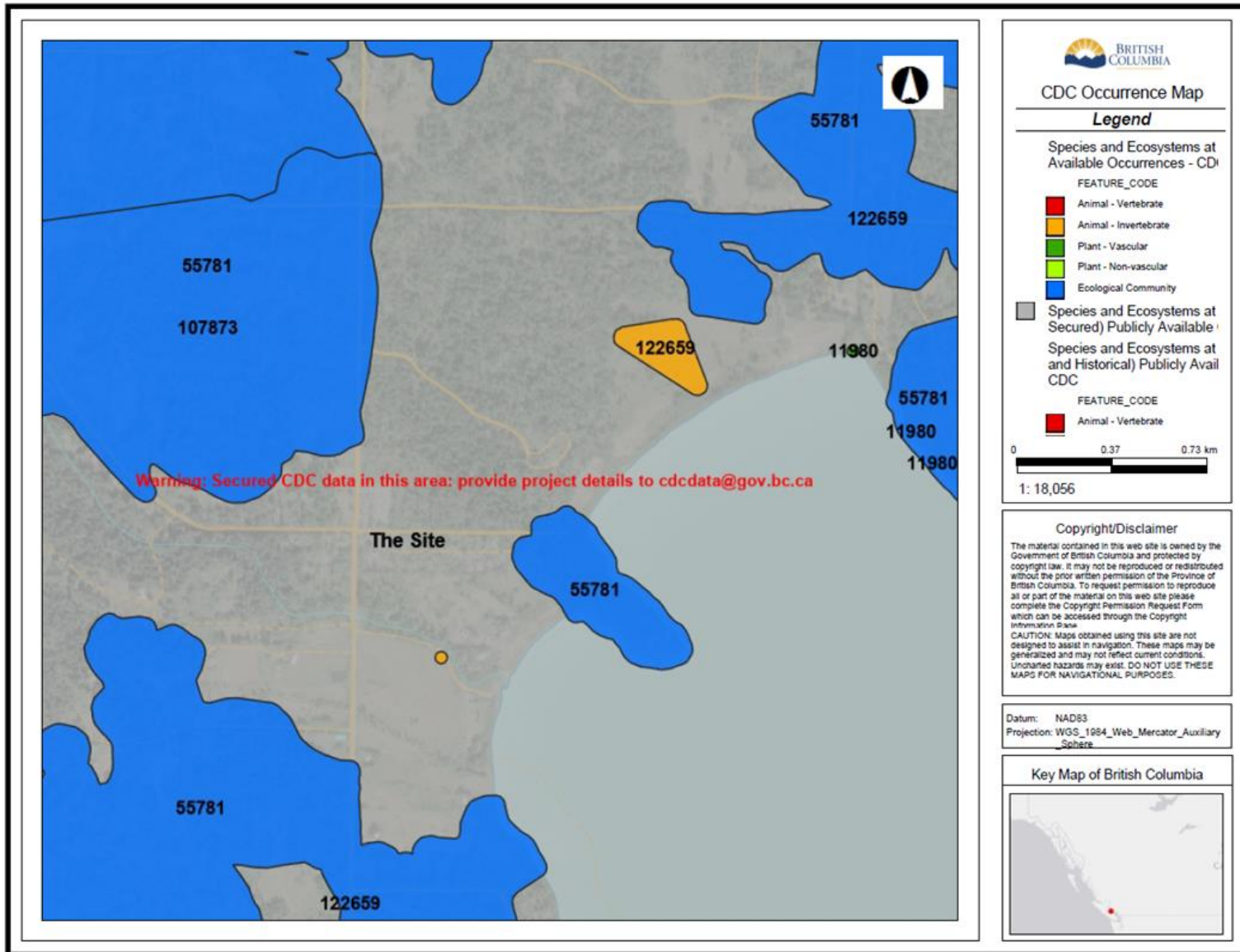
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## 9 DISCLAIMER

This report was prepared exclusively for AFC Construction by Current Environmental Ltd. The quality of information, conclusions and estimates contained herein is consistent with the level of effort expended and is based on: i) information available at the time of preparation; ii) data collected by the authors and/or supplied by outside sources; and iii) the assumptions, conditions and qualifications set forth in this report. This report is intended to be used by AFC Contracting and the project team only, subject to the terms and conditions of its contract or understanding with Current Environmental Ltd. Other use or reliance on this report by any third party is at that party's sole risk.



APPENDIX A: CDC OCCURENCE MAPPING





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## **APPENDIX B: WITS EAGLE NEST REPORT**

The Bald Eagle and Osprey Nest Record Registry grew out of federal and provincial government inventory, mapping, and monitoring programs in the 1990s, and was a catalyst in the formation of the Wildlife Tree Stewardship Program (WiTS) a decade later. WiTS was initially created by Environment Canada, the BC Ministry of Environment, BC Hydro, BC Nature (The Federation of BC Naturalists), and the Community Mapping Network. WiTS was designed to support the protection of nest trees covered under Section 34 of the Provincial Wildlife Act, and also to broadly support federal wildlife, habitat and biodiversity conservation goals. The original aim of WiTS program was to maintain a data-base and online atlas that pooled Bald Eagle nest records from government, industry, conservation/naturalist groups, and the public. Inventory and monitoring of eagle nest trees was seen as a critical first step in preventing the loss of nest trees and biodiversity during land development. The Atlas later expanded to include Osprey, other raptors, and herons. The Bald Eagle Nest Record Registry accepts information from all sources. Attached to observation records is the name and the agency (government, industry, conservation group; land-owner, etc.) of the person providing the record. It is understood that once a record is provided to the registry, the provider has no rights to remove the record or to expect personal recognition or royalties.

The Bald Eagle Nest Record Registry has a policy of not displaying personal or business names. If a personal name is included in a nest observation record, the data manager will edit the record and change a personal name to 'land-owner' or 'local resident' or some other appropriate descriptor. Business names may be adjusted if the data manager considers it linked with an issue of privacy. Most Bald Eagle nests are on private property. Many of the Bald Eagle nest site records may include directions to the site and locations on public property where a nest may be viewed from a distance. Knowing the location of a Bald Eagle nest does not give an observer permission to trespass on private property. Nest trees recorded in the Registry do not represent all Bald Eagle and Osprey nest trees - only those documented and submitted to the Atlas. Bald Eagle and Osprey nests are protected under Section 34 of the Provincial Wildlife Act regardless of whether or not they are shown on this Atlas. The WiTS program cannot legally warrant the accuracy of the nest tree locations displayed on the Atlas. Nest location and nest status information is updated as frequently as possible based on incoming observations. Lettered professionals on tendered contracts using information in this atlas must verify nest locations and nest status through independent field work and are requested to cite the Bald Eagle and Osprey Nest Registry as follows: Wildlife Tree Stewardship Program (year). Nest Tree Report. The Community Mapping Network. Available: <http://www.cmmmaps.ca/wits/>

**Nest ID**  
BAEA-106-524

**Tree Status**  
Tree Standing

**Nest Name**  
Tribune Bay

**Tree Species**

**Tree Height (m)**

**Nest Height (m)**

**Territory ID**

**Regional District**  
Islands Trust

**Electoral Area**  
Hornby Island

**Last Revision**

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## APPENDIX C: SPILL RESPONSE PLAN

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(4 pages)

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**Follow these procedures if a spill of fuels, chemicals, or other hazardous materials occurs.**

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### Contacts

**Environmental Emergency Program (EEP) 1-800-663-3456**

**9-1-1 FOR EMERGENCY SERVICES**

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### Response

For spills of any volume follow these steps:

- 1) ENSURE HUMAN SAFETY
- 2) STOP THE FLOW (when possible)
- 3) SECURE THE AREA
- 4) CONTAIN THE SPILL
- 5) NOTIFY
- 6) CLEAN-UP
- 7) REPORT
- 8) DE-BRIEF

#### 1) ENSURE HUMAN SAFETY

- Assess the situation, never rush in.
- Warn other people in the immediate vicinity.
- Determine what product has been spilled.
- If the spilled product is flammable, ensure there are no ignition sources nearby.
- Wear appropriate personal protective equipment.

#### 2) STOP THE FLOW

- Act quickly.
- Stop the flow or spill at its source.
- Close valves, shut off pumps, or plug holes/leaks.

#### 3) SECURE THE AREA

- Inform the Environmental Monitor and Construction Supervisor of the spill.
- Limit worker access to spill area.
- Prevent public entry to the site.

Continued next page...

**4) CONTAIN THE SPILL**

- Prevent spillage from entering drainages (watercourses, ditches, culverts, drains).
- Use ample spill sorbent material to contain the spill.
- As necessary, use a dyke, pumping into containment structures, or other method to prevent discharge from the site.
- Make every effort to minimize contamination.

**5) NOTIFY**

- When necessary (spills of flammable materials >100L) the first external call should be made to: BC Environmental Emergency Program (EEP) 1-800-663-3456 (24 Hour).
- Provide necessary spill details to other external agencies.
- See Spill Reporting Notification Chart and Table of Reportable Levels of Certain Substances provided below.

**1) CLEAN-UP**

- The Environmental Monitor will be responsible to ensure that clean-up methods comply with Ministry of Environment requirements including the *Environmental Management Act* and Regulations, or relevant regulation.
- All material and equipment used in clean-up (e.g. used spill containment material, and sorbent pads) are to be disposed of appropriately.
- Soils or other materials contaminated by the spill will be treated as special wastes and be disposed of as required on a site-specific basis. Residue sampling may be required in association with soil contamination to ensure complete removal and/or treatment.

**2) REPORT**

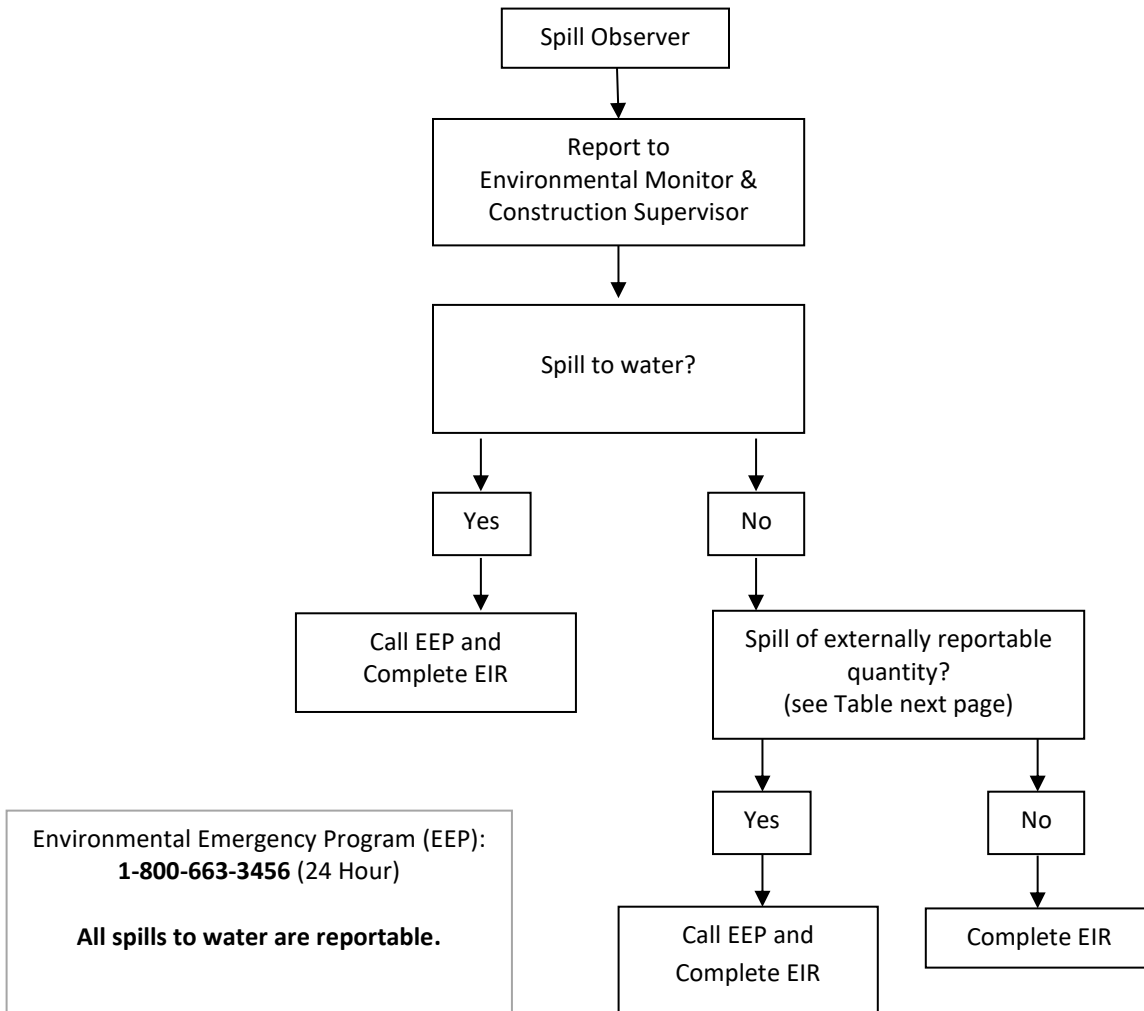
- Complete an Environmental Incident Report (EIR).
- The EIR will be submitted to MoT/MoE/DFO as required (or any other pertinent regulatory agencies), and copies will be retained by the EM and Construction Supervisor.

**3) DE-BRIEF**

- Following the clean-up of a spill the Construction Supervisor will call a meeting with all personnel to discuss the following as a means to inform future prevention and spill management techniques:
  - Identify the source of the spill and whether it could have been avoided.
  - Review the sequence of events used to handle the spill, including what was done right/wrong.
  - Determine whether the equipment used to handle the spill was available when needed and in sufficient quantity.
  - Discuss how the spill response procedure could be improved.

**Continued next page...**

**Spill Reporting Notification Chart**



Continued next page...

**Table of Reportable Levels of Certain Substances**

(Adapted from *Environmental Management Act – Spill Reporting Regulation*)

Item	Column 1 Substance spilled	Column 2 Specified amount
1	Explosives of Class 1 as defined in section 3.9 of the Federal Regulations	any
2	Flammable gases, other than natural gas, of Division 1 of Class 2 as defined in section 3.11 (a) of the Federal Regulations	10 kg, if the spill results from equipment failure, error or deliberate action or inaction
3	Non-flammable gases of Division 2 of Class 2 as defined in section 3.11 (d) of the Federal Regulations	10 kg, where spill results from equipment failure, error or deliberate action or inaction
4	Poisonous gases of Division 3 of Class 2 as defined in section 3.11 (b) of the Federal Regulations	5 kg, where spill results from equipment failure, error or deliberate action or inaction
5	Corrosive gases of Division 4 of Class 2 as defined in section 3.11 (c) of the Federal Regulations	5 kg, where spill results from equipment failure, error or deliberate action or inaction
6	Flammable liquids of Class 3 as defined in section 3.12 of the Federal Regulations	100 L
7	Flammable solids of Class 4 as defined in section 3.15 of the Federal Regulations	25 kg
8	Products or substances that are oxidizing substances of Division 1 of Class 5 as defined in section 3.17 (a) and 3.18 (a) of the Federal Regulations	50 kg
9	Products or substances that are organic compounds that contain the bivalent "-O-O-" structure of Division 2 of Class 5 as defined in sections 3.17 (b) and 3.18 (b) of the Federal Regulations	1 kg
10	Products or substances that are poisons of Division 1 of Class 6 as defined in section 3.19 (a) to (e) and 3.20 (a) of the Federal Regulations	5 kg
11	Organisms that are infectious or that are reasonably believed to be infectious and the toxins of these organisms as defined in sections 3.19 (f) and 3.20 (b) of the Federal Regulations	any
12	Radioactive materials of Class 7 as defined by section 3.24 of the Federal Regulations	All discharges or a radiation level exceeding 10 mSv/h at the package surface and 200 µSv/h at 1 m from the package surface
13	Products or substances of Class 8 as defined by section 3.25 of the Federal Regulations	5 kg
14	Miscellaneous products or substances of Division 1 of Class 9 as defined by section 3.27 (1) and (2) (a) of the Federal Regulations	50 kg
15	Miscellaneous products or substances of Division 2 of Class 9 as defined in section 3.27 (1) and (2) (b) of the Federal Regulations	1 kg
16	Miscellaneous products or substances of Division 3 of Class 9 as defined in section 3.27 (1) and (2) (c) of the Federal Regulations	5 kg
17	Waste asbestos as defined in section 1 of the Hazardous Waste Regulation	50 kg
18	Waste oil as defined in section 1 of the Hazardous Waste Regulation	100 l
19	Waste containing a pest control product as defined in section 1 of the Hazardous Waste Regulation	5 kg
20	A substance not covered by items 1 to 19 that can cause pollution	200 kg
21	Natural gas	10 kg, if there is a breakage in a pipeline or fitting operated above 100 psi that results in a sudden and uncontrolled release of natural gas

\*Refer to *Transportation of Dangerous Goods Regulation under the Transportation of Dangerous Goods Act* for substance definitions.

\*\* If there is any doubt regarding the substance spilled, specified amount, or whether it is reportable, take a cautious approach and report it.

**END – Spill Response Plan**

**APPENDIX D: ENVIRONMENTAL INCIDENT REPORT**

Any work causing an environmental incident must be reported by the Contractor to the EM as soon as possible; and the EM will fill out the following form within 24 hours.

**DESCRIPTION OF INCIDENT**

Date of incident (YYYY-MM-DD):	Date reported (YYYY-MM-DD):
Time of incident:	Time of report:
Description of the incident, including sequence of events and works being completed:	
Weather/site conditions at time of incident:	
Equipment type: Serial number:	Material released: Amount:
Environment impacted: <input type="checkbox"/> Air <input type="checkbox"/> Asphalt/concrete <input type="checkbox"/> Surface water/ditch <input type="checkbox"/> Soil <input type="checkbox"/> Drainage system <input type="checkbox"/> Watercourse <input type="checkbox"/> Inside building/ engineered containment	Was this reported to any external agency? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, indicate agency:

**ACTIONS TAKEN**

Immediate actions taken:
Corrective actions taken (e.g. measures to prevent recurrence of incident):

**CONTRACTOR INFORMATION**

Company name	
Contractor's representative	
Address	
Phone number	

**ADDITIONAL INFORMATION**

(Additional notes, sketches, photos, etc.)

**SIGN OFF**

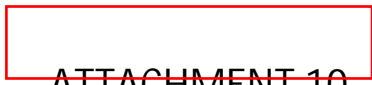
\_\_\_\_\_  
**Contractor representative signature**

\_\_\_\_\_  
**Date**

*July 22nd, 2024*







# ATTACHMENT 10 NOTICE

PLDVP20240155

## HORNBY ISLAND LOCAL TRUST COMMITTEE

**NOTICE** is hereby given that the Hornby Island Local Trust Committee will be considering a resolution allowing for the issuance of a Development Variance Permit, pursuant to Section 499 of the *Local Government Act*. The proposed permit would vary the Hornby Island Land Use Bylaw No. 150, 2014 by:

- Permitting the siting of a proposed new grocery store building on the Hornby Co-operative Association property, within 1.2 metres of the rear (Southern) property line, and up to 0.0 metres from the interior side (Eastern) property line.

The property is located at **5875 Central Road, Hornby Island, BC** and is legally described as:

LOT 1 SECTIONS 6 AND 10 HORNBY ISLAND NANAIMO DISTRICT PLAN VIP79310 (PID: 026-371-791)

The general location of the subject property is shown on the following sketch:



A copy of the proposed permit may be inspected at the Islands Trust Office, 700 North Road, Gabriola Island, BC V0R 1X3 between the hours of 8:30 a.m. to 4:30 p.m. Monday to Friday inclusive, excluding statutory holidays, commencing **October 18, 2024** and continuing up to and including **November 1, 2024**.

A copy of the Development Variance Permit may be found online at <https://islandstrust.bc.ca/island-planning/hornby/current-applications/>

Enquiries or comments should be directed to Ian Cox, Planner 2 at (250) 247-2207, for Toll Free Access, request a transfer via Enquiry BC: In Vancouver 660-2421 and elsewhere in BC 1-800-663-7867; or by fax (250) 405-5155; or by email to: [northinfo@islandstrust.bc.ca](mailto:northinfo@islandstrust.bc.ca) before 4:30 pm, **October 31, 2024**.

The Hornby Island Local Trust Committee may consider issuance of the proposed Permit at its Business Meeting to be held at **11:30 a.m., November 1, 2024 at the Hornby Community Hall, 4305 Central Road, Hornby Island**.

All applications are available for review by the public with prior appointment. Written comments made in response to this notice will also be available for public review.

Nadine Mourao, Deputy Secretary



Islands Trust

# PROPOSED

## HORNBY ISLAND LOCAL TRUST COMMITTEE DEVELOPMENT VARIANCE PERMIT PLDVP20240155

To: HORNBY ISLAND CO-OPERATIVE ASSOCIATION, INC.NO.710

1. This Development Variance Permit applies to the land described below:

LOT 1 SECTIONS 6 AND 10 HORNBY ISLAND NANAIMO DISTRICT PLAN VIP79310  
(PID: 026-371-791)

2. Hornby Island Land Use Bylaw No. 150, 2014 is varied as follows:

- a) **Section 8.9, Subsection 4(b) which states that the minimum setback for any building or structure, except for a fence or pump/utility house shall be 6.0 metres from a rear lot line, is varied to permit the construction of a new grocery store building within 1.2 metres of the Southern rear lot line.**
- b) **Section 8.9, Subsection 4(c) which states that the minimum setback for any building or structure, except for a fence or pump/utility house shall be 3.0 metres from an interior side lot line, is varied to permit the construction of a new grocery store building within 0.0 metres of the Eastern interior lot line.**

The development shall be consistent with Schedule 'A' which is attached to and forms part of this permit.

3. This permit is not a building permit and does not remove any obligation on the part of the permittee to comply with all other requirements of "Hornby Island Land Use Bylaw No. 150, 2014" and to obtain other approvals necessary for completion of the proposed development.

**AUTHORIZING RESOLUTION PASSED BY THE HORNBY ISLAND LOCAL TRUST COMMITTEE THIS ##th DAY OF \_\_\_\_\_, 202X.**

\_\_\_\_\_  
Deputy Secretary, Islands Trust

\_\_\_\_\_  
Date of Issuance

**IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE ##th DAY OF \_\_\_\_\_, 202X (2 YEARS FROM DATE OF ISSUANCE) THIS PERMIT AUTOMATICALLY LAPSES.**

**SCHEDULE 'A'**

**Site Plan**

